AIDA64 Engineer

User manual

v 1.1

13. 01. 2014.

AIDA64 Engineer is developed by FinalWire Ltd.

Copyright © 1995 - 2014 FinalWire Kft.

This document was created by ABSEIRA Ltd. All rights reserved.

Copyright © 2010 - 2014 ABSEIRA Kft.

The names of actual companies and products mentioned herein may be the trademarks of their respective owners.

CONTENTS

1 Introduction 5

1.1 System requirements 5

1.2 Main AIDA64 Engineer functions 5

1.2.1 CPU, memory and disk benchmarks 6

1.2.2 System stability test 7

1.2.3 Temperature, voltage and cooling fan monitoring 7

1.2.4 Hardware detection 7

1.2.5 Software analysis 7

1.2.6 Automated report creation 7

1.3 User interface 8

2 Preferences 9

2.1 Language 9

2.2 General 10

2.2.1 General 10

2.2.2 NetUpdate 11

2.3 Layout 12

2.4 Stability 13

2.5 Report 17

2.5.1 Report file 19

2.5.2 Report look 20

2.5.3 Remarks 20

2.6 E-mail 21

2.6.1 SMTP 21

2.7 Summary 22

2.8 Content Filtering 22

2.9 Custom Components 23

2.10 Hardware monitoring 24

2.10.1 Update frequency 25
2.10.2 Sensor icons 25
2.10.3 OSD 26
2.10.4 Desktop gadgets 27
2.10.5 LCD 28
2.10.6 SensorPanel 30
2.10.7 Logging 31
2.10.8 External applications 32
2.10.9 Alerting 35
2.10.10 Correction 36
3 View 37
4 Report 38
4.1 Report Wizard 38
4.1.1 Report profiles 39
4.1.2 Report format 40
4.2 Quick report 40
4.3 Submit report to FinalWire 41
4.4 Report review 41
5 Favorites 42
6 Tools 43
6.1 Disk benchmark 43
6.2 Cache and memory benchmark 44
6.3 ACPI Browser 47
6.4 DRAM Timings 47
6.5 Monitor Diagnostics 48
6.6 System Stability Test 50
6.7 AIDA64 CPUID 50
7 Help 51
7.1 AIDA64 Help 51

7.2 AIDA64 Online 51
7.3 AIDA64 forum 52
7.4 Contact 52
7.5 License 53
7.6 Command-line options 53
7.6.1 Report 54
7.6.2 Report profile 54
7.6.3 Report format 54
7.6.4 Language 55
7.6.5 Troubleshooting 55
7.6.6 Miscellaneous 55
7.6.7 Variables 56
7.7 Entering Product Key, License Information 56
7.7.1 Lost product registration key 56
7.8 Check for updates 57
7.9 About 57
8 Page menu 58
8.1 Computer 58
8.2 Motherboard 59
8.3 Operating system 61
8.4 Server 62
8.5 Display 63
8.6 Multimedia 64
8.7 Storage 65
8.8 Network 67
8.9 DirectX 68
8.10 Devices 69
8.11 Software 70
8.12 Security 71

8.13 Config 72

8.14 Database 73

8.15 Benchmark 73

9 Contact 75

1 INTRODUCTION

AIDA64 Engineer is an industry-leading system information, diagnostic and benchmarking solution for corporate IT technicians and engineers. It offers exhaustive computer analysis, benchmarks optimized for the latest technologies, advanced hardware monitoring and diagnostics, and support for command-line options.

The software can be easily deployed in a corporate environment following the instructions in the Setup Guide downloadable from our website.

1.1 SYSTEM REQUIREMENTS

Operating systems:

- Windows 95 / 98 / Me
- Windows NT4 / 2000
- Windows XP
- Windows PE
- Windows Server 2003
- Windows Vista
- Windows Server 2008
- Windows 7
- Windows Server 2008 R2
- Windows 8
- Windows 8.1
- Windows Server 2012
- Windows Server 2012 R2

Processor: Intel Pentium or newer

Memory: 32 MB or more (or 128 MB or more for running the benchmarks)

Available hard drive space: 40 MB

AIDA64 is completely vendor-independent and is compatible with all PCs running 32-bit and 64-bit Microsoft Windows operating systems. As far as the available functions are concerned, it is irrelevant if we run AIDA64 on a server or client operating system.

1.2 MAIN AIDA64 ENGINEER FUNCTIONS

Targeting corporate IT technicians and engineers, AIDA64 Engineer boasts such unique functions as advanced hardware detection and system diagnostics, software information, benchmarking, system stability test, hardware monitoring and alerting as well as command-line support. The product can also be helpful when we purchase new systems and want to make sure that the purchased computers contain all the components we ordered.

AIDA64 Engineer does not support some of the functionality available in other AIDA64 editions, such as network audit, change management and remote services.

	AIDA64 Extreme	AIDA64 Engineer	AIDA64 Network Audit	AIDA64 Business
Commercial use	⊖	⊕	⊕	⊕
Diagnostics				
Hardware analysis	⊕	⊕	⊕	⊕
Software & Windows details	⊕	⊕	⊕	⊕
Overclock information	⊕	⊕	⊖	⊕
System stability test	⊕	⊕	⊖	⊕
Monitor diagnostics	⊕	⊕	⊖	⊕
CPU, memory, disk benchmarks	⊕	⊕	⊖	⊕
Hardware monitoring				
Sensor monitoring	⊕	⊕	⊕	⊕
Sensor value logging and alerting	⊕	⊕	⊖	⊕
OSD Panel & Desktop Gadget	⊕	⊕	⊖	⊕
Logitech LCD support	⊕	⊕	⊖	⊕
Uptime & downtime statistics	⊕	⊕	⊕	⊕
Network audit				
Command-line automation	⊖	⊕	⊕	⊕
CSV & XML reporting	⊖	⊖	⊕	⊕
SQL database output	⊖	⊖	⊕	⊕
Software audit with file scanner	⊖	⊖	⊕	⊕
Remote features				
Graphical remote control	⊖	⊖	⊖	⊕
Remote user monitoring	⊖	⊖	⊖	⊕
Remote disk health monitoring	⊖	⊖	⊖	⊕
Remote virus database monitoring	⊖	⊖	⊖	⊕
Automatic remote reporting	⊖	⊖	⊖	⊕
Corporate features				
Network alerts	⊖	⊖	⊕	⊕
Audit manager	⊖	⊖	⊕	⊕
Change tracking	⊖	⊖	⊕	⊕
Engineer features				
ACPI Browser, DRAM Timings	⊖	⊕	⊖	⊕
Logical processors support	128	640	640	640

1.2.1 CPU, MEMORY AND DISK BENCHMARKS

AIDA64 includes a set of 64-bit benchmarks which measure how fast the computer performs various data processing tasks and mathematical calculations. Memory and cache benchmarks are available to analyze RAM and cache bandwidth and latency. Processor benchmarks utilize MMX, SSE, XOP, FMA, AVX and AVX2 instructions, and scale up to 640 processor threads. The AIDA64 Disk Benchmark determines the data transfer speed of hard disk drives, solid-state drives, optical drives and flash memory based devices.

1.2.2 SYSTEM STABILITY TEST

The system stability test in AIDA64 uses a 64-bit multi-threaded stress testing module which can drive the computer to its absolute limits. During the test, temperature and voltage readings can be monitored in real time, while the stress test reveals any potential stability and reliability issues. Hard disk, SSD and OpenCL GPGPU video adapter stress testing is also available.

1.2.3 TEMPERATURE, VOLTAGE AND COOLING FAN MONITORING

AIDA64 supports over 250 various sensor devices to measure temperatures, voltages, fan speeds and power draw. Measured values can be displayed on an OSD panel, a Sidebar Gadget, System Tray icons, the SensorPanel and the Logitech G15/G19 Gaming Keyboard LCD. The values can also be logged into a file or exported to external applications such as RivaTuner or Samurai. AIDA64 can also send an alert to the user when it detects overheating, over-voltage or cooling fan failure.

1.2.4 HARDWARE DETECTION

AIDA64 has the most accurate hardware detection capabilities in its class. The leading hardware detection engine is based on an exhaustive hardware database containing over 160,000 entries, which ensures that the software provides very detailed and reliable information about the PCs components. With the additional integrated modules, it is possible to review processor frequencies, check CRT and LCD display status, and analyze DRAM timing details.

1.2.5 SOFTWARE ANALYSIS

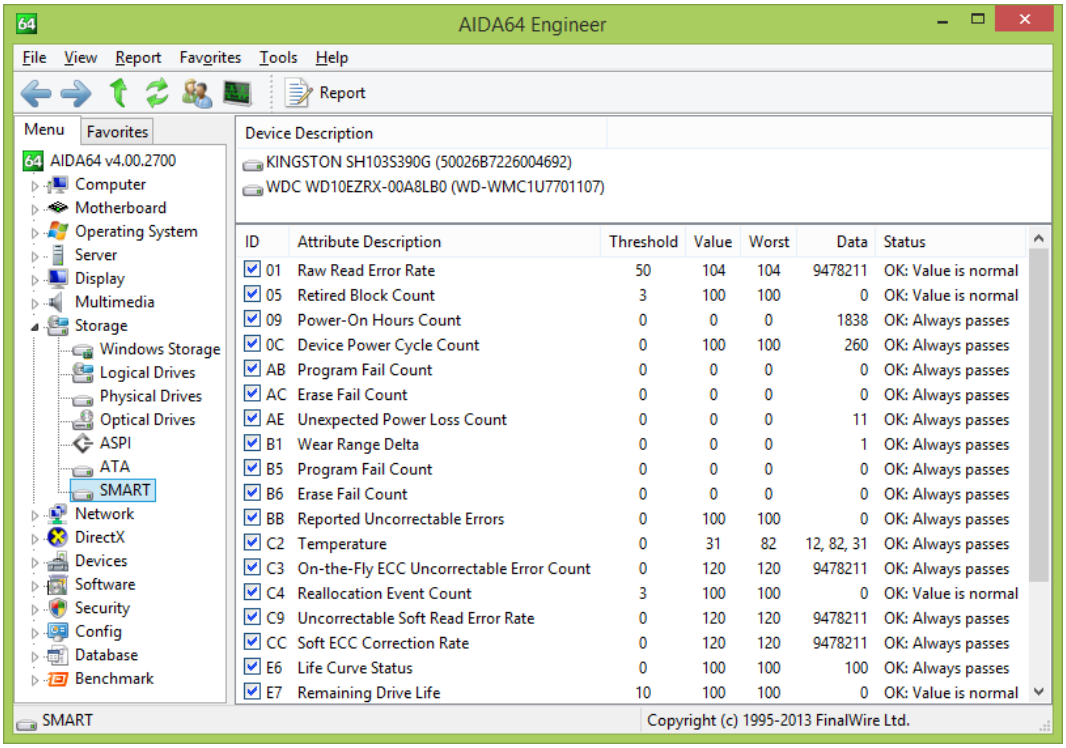
AIDA64 can provide over 50 pages of information on installed programs, software licenses, security applications and Windows settings. Lists of running processes, services, DLL files, startup programs and visited web pages are also available.

1.2.6 AUTOMATED REPORT CREATION

As it supports command-line options, AIDA64 Engineer offers great flexibility for automatic report creation. The software supports the following report formats: TXT, HTML and MHTML.

1.3 USER INTERFACE

The main functions of AIDA64 are accessible from the Menu bar. Below the Menu bar, we can find the Toolbar, with which we can navigate through the pages. Located in the left column below the Toolbar, the Page menu displays a list of hardware and software categories, details of which open in the information windows on the right.


AIDA64 Engineer
File View Report Favorites Tools Help
Report
Menu
Favorites
AIDA64 v4.00.2700
Computer
Motherboard
Operating System
Server
Display
Multimedia
Storage
Windows Storage
Logical Drives
Physical Drives
Optical Drives
ASPI
ATA
SMART
Network
DirectX
Devices
Software
Security
Config
Database
Benchmark
Device Description
KINGSTON SH103S390G (50026B7226004692)
WDC WD10EZRX-00A8LB0 (WD-WMC1U7701107)
ID Attribute Description Threshold Value Worst Data Status
01 Raw Read Error Rate 50 104 104 9478211 OK: Value is normal
05 Retired Block Count 3 100 100 0 OK: Value is normal
09 Power-On Hours Count 0 0 0 1838 OK: Always passes
0C Device Power Cycle Count 0 100 100 260 OK: Always passes
AB Program Fail Count 0 0 0 0 OK: Always passes
AC Erase Fail Count 0 0 0 0 OK: Always passes
AE Unexpected Power Loss Count 0 0 0 11 OK: Always passes
B1 Wear Range Delta 0 0 0 1 OK: Always passes
B5 Program Fail Count 0 0 0 0 OK: Always passes
B6 Erase Fail Count 0 0 0 0 OK: Always passes
BB Reported Uncorrectable Errors 0 100 100 0 OK: Always passes
C2 Temperature 0 31 82 12, 82, 31 OK: Always passes
C3 On-the-Fly ECC Uncorrectable Error Count 0 120 120 9478211 OK: Always passes
C4 Reallocation Event Count 3 100 100 0 OK: Value is normal
C9 Uncorrectable Soft Read Error Rate 0 120 120 9478211 OK: Always passes
CC Soft ECC Correction Rate 0 120 120 9478211 OK: Always passes
E6 Life Curve Status 0 100 100 100 OK: Always passes
E7 Remaining Drive Life 10 100 100 0 OK: Value is normal
SMART
Copyright (c) 1995-2013 FinalWire Ltd.

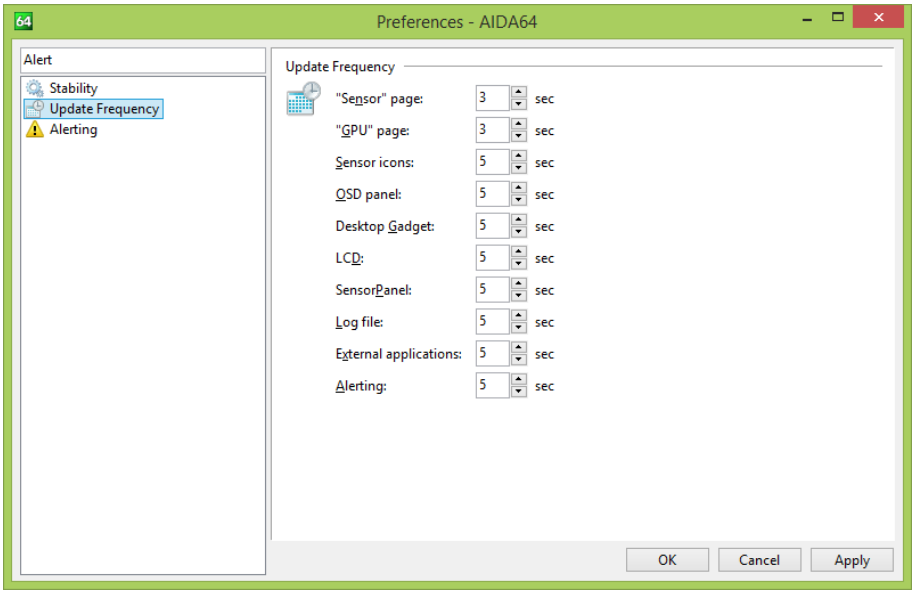
The Page menu list is grouped into the following categories:

- Computer
- Motherboard
- Operating System
- Server
- Display
- Multimedia
- Storage
- Network
- DirectX
- Devices
- Software
- Security
- Config
- Database
- Benchmark

The information window displays specific information pertaining to each category from the page menu. A right-click on any single item will copy the related page information to the clipboard.

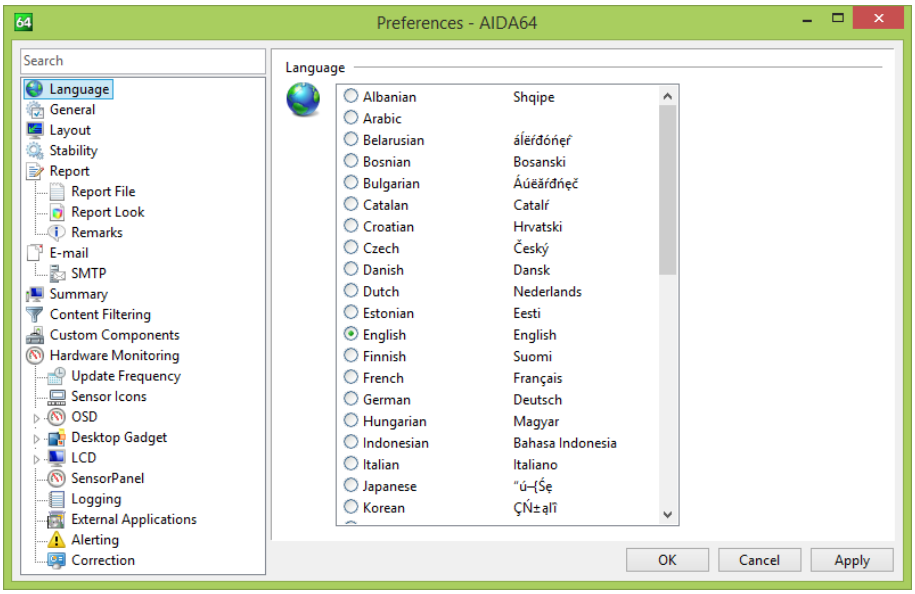
2 PREFERENCES

The Preferences window can be opened from the File menu. At the upper-left corner of the window, there is a search field which helps us find the options we are looking for in the tree menu. The search engine will list those pages the title or contents of which contain the search term.



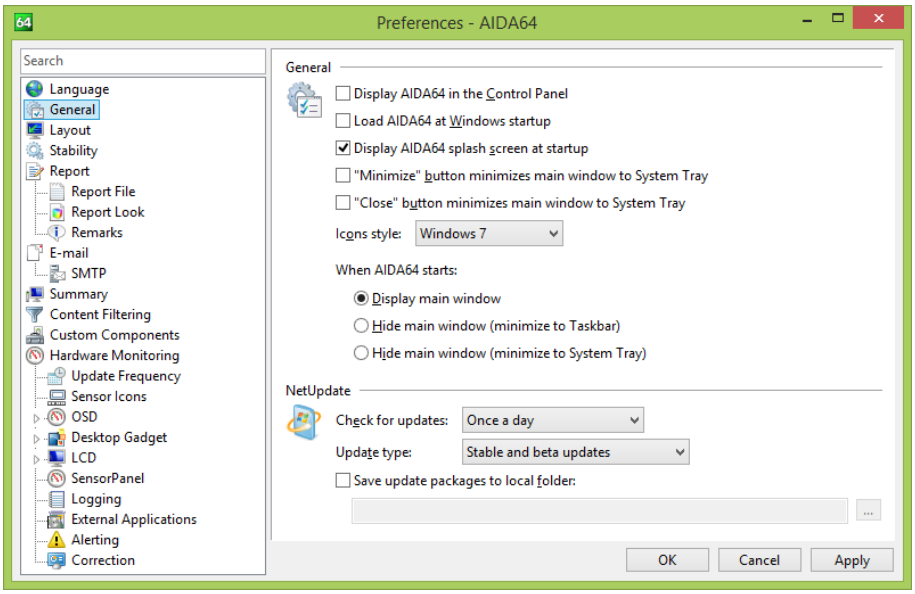
2.1 LANGUAGE

The first page of the Preferences window lists all available user interface languages. The user interface language can be changed by selecting the desired language from the list and then pressing the “OK” button. However, to ensure that all user interface elements are updated and displayed correctly, it is recommended to restart AIDA64 after changing the user interface language. AIDA64 currently supports more than 35 languages, but certain modules – for example, the CPUID panel, the memory benchmarks and monitor diagnostics – are only available in English.



2.2 General

On the General tab, we can find the general AIDA64 settings, for example, we can define how the software starts or how often it looks for software updates.



2.2.1 General

Display AIDA64 in the Control Panel

With this option, we can display the AIDA64 icon in the Windows Control Panel so that we can launch AIDA64 directly from the Control Panel.

Load AIDA64 at Windows startup

With this option enabled, AIDA64 will load automatically when Windows starts.

Display AIDA64 splash screen at startup

With this option enabled, AIDA64 will display the AIDA64 splash screen when the software starts.

“Minimize” button minimizes main window to System Tray

This option changes the default behavior of the Minimize button to close the AIDA64 main window to the System Tray (instead of the Taskbar).

“Close” button minimizes main window to System Tray

This option changes the default behavior of the Close button to close the AIDA64 main window to the System Tray.

Icon style

When this option is set to Windows XP or Windows 7, the relevant 32-bit alpha channel icons (in the style of Windows XP or Windows 7) are displayed under Windows XP and later operating systems. This feature is available only when the AIDA_ICONSXP.DLL or AIDA_ICONS7.DLL file presents.

When AIDA64 starts

With this option, we can configure the behavior of the AIDA64 main window after startup.

2.2.2 NETUPDATE

Check for updates

Here we can set how often we want AIDA64 to look for updates. A fully automated online update is only available when AIDA64 is activated with a valid product key and only until the expiry of the support period. During the 30-day trial period – or when AIDA64 is activated with a non-genuine product key – only a notification is sent about new product updates, and a manual software update is required.

Available options are:

- Never
- Once a day
- Once a week
- Once a month

Update type

This option can be used to select which updates to use. It is not recommended to use beta updates for AIDA64 Engineer. AIDA64 stable updates are released about 5 times a year.

Available options are:

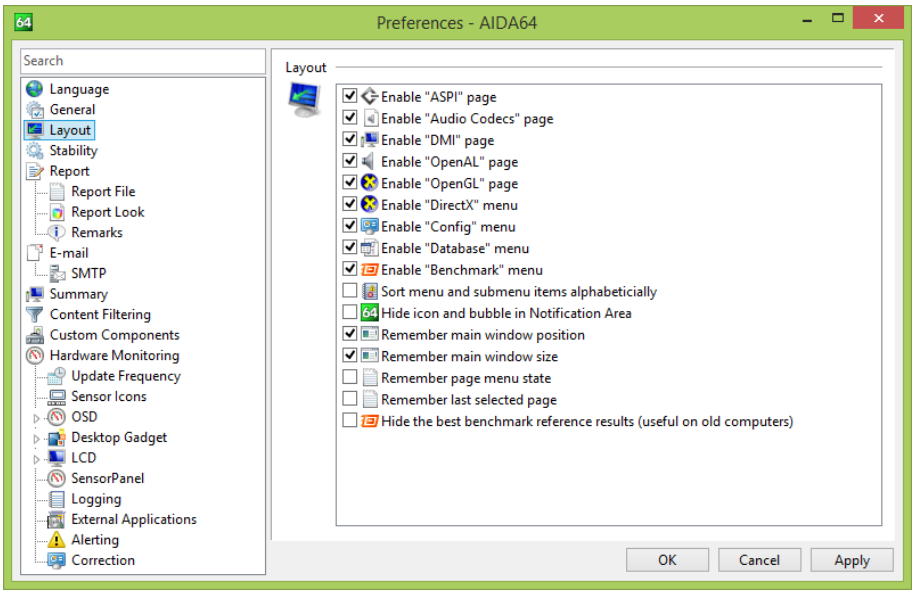
- Stable updates only
- Stable and beta updates

Save update packages to local folder

This option can be used to backup AIDA64 update packages to a local folder. Besides the ZIP format update package, a text file holding changelog information is also saved to the specified folder after a successful software update.

2.3 LAYOUT

With the options available on the Layout tab on the Preferences window, we can configure the user interface and the layout of AIDA64.



Enable “ASPI” page

This option displays or hides the Storage / ASPI page which shows information about ASPI devices. In some very rare scenarios, AIDA64 may lock up or cause an application fault when the ASPI page is opened. In such cases disabling the ASPI page can resolve the problem.

Enable “Audio Codecs” page

This option displays or hides the Multimedia / Audio Codecs page which shows information about the available audio codecs. This page may not be necessary when doing network audit or remote control, and in such scenarios, disabling it can save up to 10 MB of system memory.

Enable “DMI” page

This option displays or hides the Computer / DMI page which displays information about the BIOS, the motherboard, the chassis, the controllers as well as the slots, connectors and sockets integrated on the motherboard. The reliability and accuracy of DMI information depends on the motherboard or computer manufacturer responsible for providing this data. It is recommended that this page is disabled if DMI data seem inaccurate.

Enable “OpenAL” page

This option displays or hides the Multimedia / OpenAL page which displays information about the Open AL interface. OpenAL API calls may cause application or operating system faults when the audio driver does not fully conform to industry-accepted standards.

Enable “OpenGL” page

This option displays or hides the Display / OpenGL page which displays information about the OpenGL interface. OpenGL API calls may cause application or operating system faults when the video driver does not fully conform to industry-accepted standards.

Enable "DirectX" menu

This option displays or hides all pages under the DirectX menu.

Enable "Config" menu

This option displays or hides all pages under Config menu which displays certain Windows-related information.

Enable "Database" menu

This option displays or hides all pages under the Database menu which displays information about the installed database management software, drivers and data sources.

Enable "Benchmark" menu

This option displays or hides all pages under the Benchmark category.

Sort menu and submenu items alphabetically

This option sorts the Page menu captions alphabetically. This option may simplify navigation in the Page menu when a lot of pages are enabled.

Hide icon and bubble in Notification Area

This option displays or hides the AIDA64 icon on the System Tray (also known as the Notification Area). This includes the bubble shown for specific events under Windows 2000 and later operating systems.

Remember main window position

AIDA64 saves and restores the main window position when this option is enabled. The AIDA64 main window will always be displayed on the desktop centre when this setting is disabled.

Remember main window size

AIDA64 saves and restores the main window size (both width and height) when this option is enabled. The AIDA64 main window will be displayed using the default 800x600 window size when this setting is disabled.

Remember page menu state

AIDA64 saves and restores the page menu state when this option is enabled. Page menu state means the expanded or collapsed state of each menu item in the page menu.

Remember last selected page

AIDA64 displays the last selected page when this option is enabled.

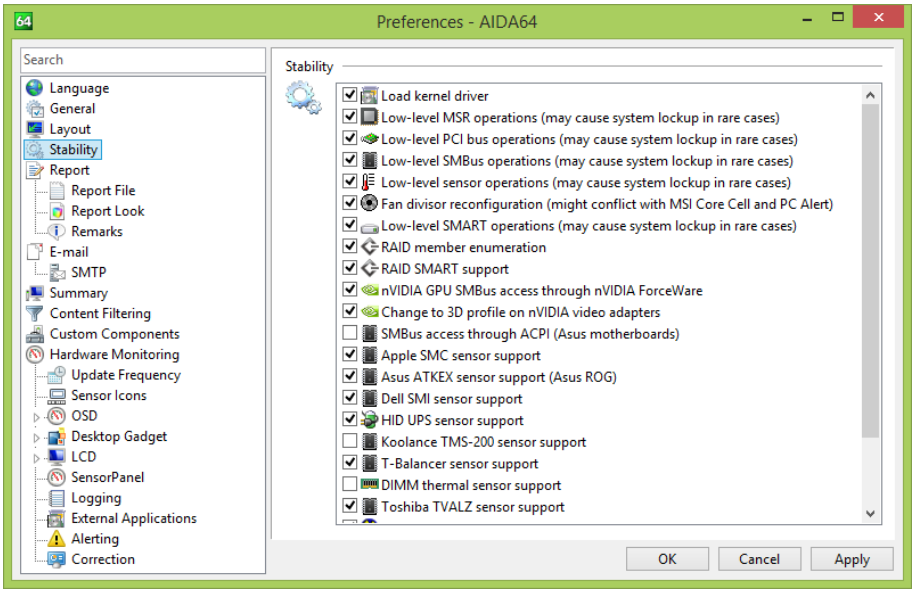
Hide the best benchmark reference results

With this option, we can hide the top half of the scores in the benchmark reference results list, which may be useful on older computers.

2.4 STABILITY

In this menu, we can enable or disable the low-level hardware detection modules of AIDA64 – some of which can cause system hang-ups in rare scenarios. When experiencing stability issues, these options can be used to make AIDA64 work properly.

These low-level modules can be disabled from the command line, too. If we launch AIDA64 using the /SAFE or /SAFEST command line options we can disable some critical low-level hardware detection functions to ensure system stability.



Load kernel driver

In most cases, stability issues can be avoided by preventing the AIDA64 kernel driver from loading.

Low-level MSR operations

Here we can disable MSR instructions (RDMSR and WRMSR). When this option is disabled, CPU FSB and CPU multiplier detection will not be provided.

Low-level PCI bus operations

With this option, we can control whether AIDA64 uses low-level PCI bus scanning that may cause system lockup in outdated systems, typically equipped with S3 or Trident PCI video cards. When this option is disabled, motherboard chipset, motherboard bus, GPU, SPD and sensor information will not be available.

Low-level SMBus operations

With this option, we can control whether AIDA64 uses low-level SMBus scanning that may cause system lockup in rare cases. When this option is disabled, SPD and sensor information will not be available.

Low-level sensor operations

With this option, we can control whether AIDA64 uses low-level sensor scanning that may lead to system lockups or warnings, or cause the CPU fan to stop in rare cases. When this option is disabled, no sensor information will be provided.

Fan divisor reconfiguration

With this option, we can control whether AIDA64 uses the fan divisor reconfiguration feature of the hardware monitoring module. Fan divisor reconfiguration ensures that the status of all fans (including low-RPM fans) can be detected properly. However, the applications MSI Core Cell and PC Alert collide with software that reconfigure fan divisors, so AIDA64 can be used simultaneously with these only if this option is disabled.

Low-level SMART operations

With this option, we can control whether AIDA64 uses low-level SMART disk calls that may cause system lockup in rare cases. When this option is disabled, no hard disk temperature and SMART disk health status information will be provided.

RAID member enumeration

With this option, we can enable or disable low-level RAID member enumeration calls for RAID arrays that may cause system lockup in rare cases. When this option is disabled, no ATA autodetect information or SMART disk health status information can be provided for RAID arrays.

RAID SMART support

With this option, we can control whether AIDA64 uses low-level SMART disk calls for RAID arrays that may cause system lockup in rare cases. When this option is disabled, no hard disk temperature and SMART disk health status information will be provided for RAID arrays.

nVIDIA GPU SMBus access through NVGPIO

This option can be used to improve the stability of GPU sensor readout on Asus graphics cards with Asus SmartDoctor installed and running.

Change to 3D profile on nVIDIA video adapters

When this option is enabled, the GPU detection module of AIDA64 will switch to 3D profile. This way, the software can measure the maximum clock speed of the GPU. However, when the video adapter switches to 3D profile the GPU fan speed may also increase.

SMBus access through ACPI

This option can be used on Asus motherboards to avoid collisions between the AIDA64 hardware monitoring module and Asus' own hardware monitoring and overclocking applications (e.g. Asus AI Booster, Asus AI Suite, Asus PC Probe II, Asus SixEngine, etc). This option must not be enabled on PCs with non-Asus motherboards.

Apple SMC sensor support

With this option, we can control whether AIDA64 uses low-level features to measure temperatures and cooling fan speeds via Apple SMC sensors. In rare cases, polling the Apple SMC sensor device may cause system instability.

Asus ATKEX sensor support (Asus ROG)

With this option, we can control whether AIDA64 uses low-level features to measure temperatures and cooling fan speeds via Asus ATKEX driver calls on Asus ROG motherboards. This option can only be used when the Asus AI Suite is installed.

Dell SMI sensor support

With this option, we can control whether AIDA64 uses low-level features to measure temperatures and cooling fan speeds via Dell SMI sensors. In rare cases, polling the Dell SMI sensor device may cause system slowdowns or lockup.

HID UPS sensor support

With this option, we can control whether AIDA64 uses low-level features to monitor battery power and voltages via HID UPS sensors. In rare cases, polling HID UPS sensors may cause system slowdown.

Koolance TMS-200 sensor support

With this option, we can control whether AIDA64 uses low-level features to measure temperatures and cooling fan speeds via Koolance TMS-200 family sensor devices. To avoid potential incompatibility issues this option is disabled by default, and has only to be enabled when a Koolance TMS-200 device is connected to the system.

T-Balancer sensor support

With this option, we can control whether AIDA64 uses low-level features to measure temperatures via T-Balancer sensor devices.

DIMM thermal sensor support

With this option, we can control whether AIDA64 uses low-level features to measure temperatures of DIMM memory modules using SMBus operations. To avoid potential incompatibility issues this option is disabled by default, and has only to be enabled when a thermal sensor capable memory module is installed.

Toshiba TVALZ sensor support

With this option, we can control whether AIDA64 uses low-level features to measure cooling fan speeds via Toshiba TVALZ sensors. In rare cases polling the Toshiba TVALZ sensor device may cause system instability.

Volterra VT11xx sensor support

With this option, we can control whether AIDA64 uses low-level features to measure temperature, voltage and power draw via Volterra VT11xx GPU sensor chips. In rare cases polling a Volterra VT11xx sensor chip may cause system instability while running 3D games.

GPU sensor support

With this option, we can control whether AIDA64 uses low-level features to measure temperature, voltage and cooling fan speeds on AMD and NVIDIA graphics cards. In rare cases, polling GPU sensors may cause system slowdowns or lockup.

GPU fan speed measurement

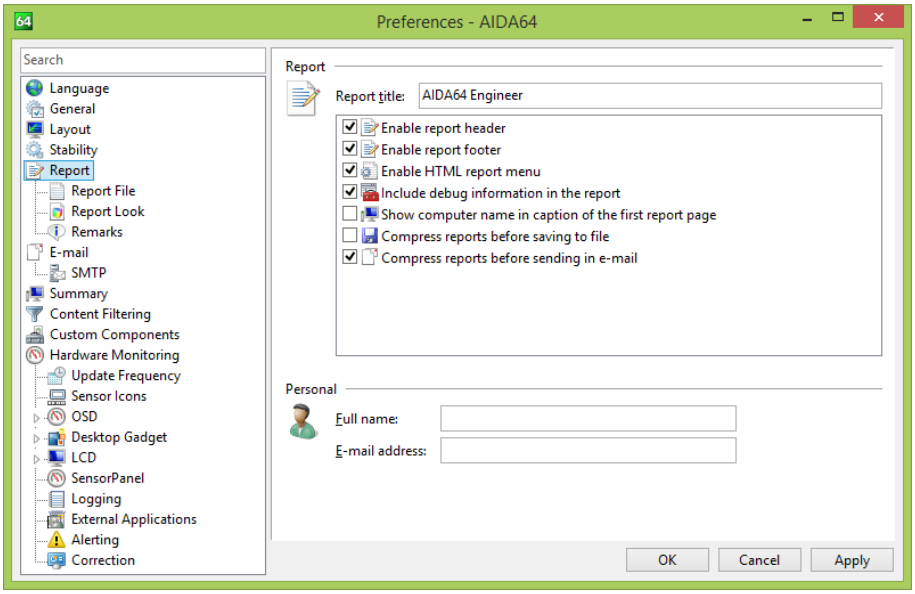
With this option, we can control whether AIDA64 uses low-level features to measure cooling fan speeds for AMD and NVIDIA video cards. In rare cases polling GPU fans may cause system instability or automatic fan speed control issues.

Multi-GPU support

With this option, we can control whether AIDA64 uses multi-GPU features. On AMD CrossFireX configurations (including multi-GPU AMD video cards like Radeon HD 5970) the ULPS power-saving feature of the AMD Catalyst video driver may cause various issues while running AIDA64. In such cases, multi-GPU support has to be disabled to restore system stability.

2.5 REPORT

This page lists several options to customize the report creation process.



Report title

This option specifies the first line of the reports.

Enable report header

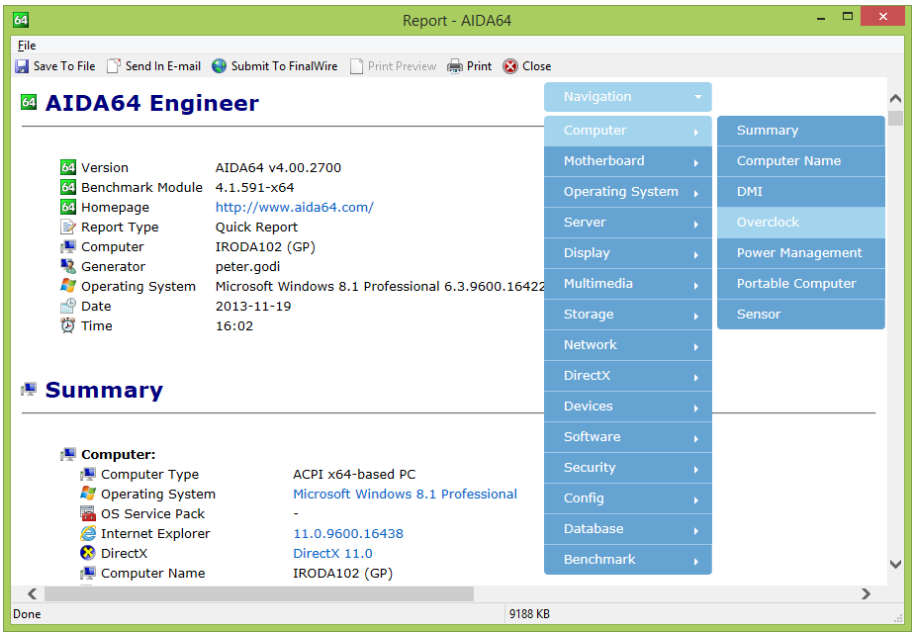
When this option is enabled, several important information about the report creation (including AIDA64 version, report type, computer name, user name, operating system type & version, creation date & time) is displayed on the top of the reports. It is recommended that this option is enabled during network audit. When HTML and MHTML reports are created for printing purposes, we may choose to disable both report header and report footer to save paper space.

Enable report footer

When this option is enabled, a short disclaimer message appears at the end of HTML and MHTML report files.

Enable HTML report menu

The HTML report menu is a drop-down list of quick links to individual categories and subcategories which makes locating information easier in HTML reports. This option is enabled by default.



Include debug information in the report

When this option is enabled, a dump of PCI registers and video BIOS appears at the end of TXT, HTML, MHTML reports. Debug information is important when contacting AIDA64 Technical Support with hardware detection issues, so please make sure to enable this option before submitting any reports to AIDA64 Technical support.

Show computer name in caption of the first report page

When this option is enabled, the computer name is displayed in the caption of the Computer / Summary page in the reports. This option is useful when HTML or MHTML reports are printed or filed and the report header is disabled.

Compress reports before saving to file

When this option is enabled, reports are compressed (using ZIP) before they are saved to file.

Compress reports before sending in e-mail

When this option is enabled, reports are compressed before they are attached to the e-mail.

Full name

This option specifies the name that appears in the “From” field of outgoing e-mail messages.

E-mail address

This option specifies the e-mail address that appears in the “From” field of outgoing e-mail messages.

2.5.1 REPORT FILE

Output folder

This page lists several options to configure report file creation. Among other things, we can specify the default output folder for saving reports: this is where reports will be saved if we do not define a path in the command-line. During network report, this folder should be a UNC path (for example: \\computer\share\folder), and all users should only have write permission to this folder. We can use the following variables in both the output folder name and the file name:

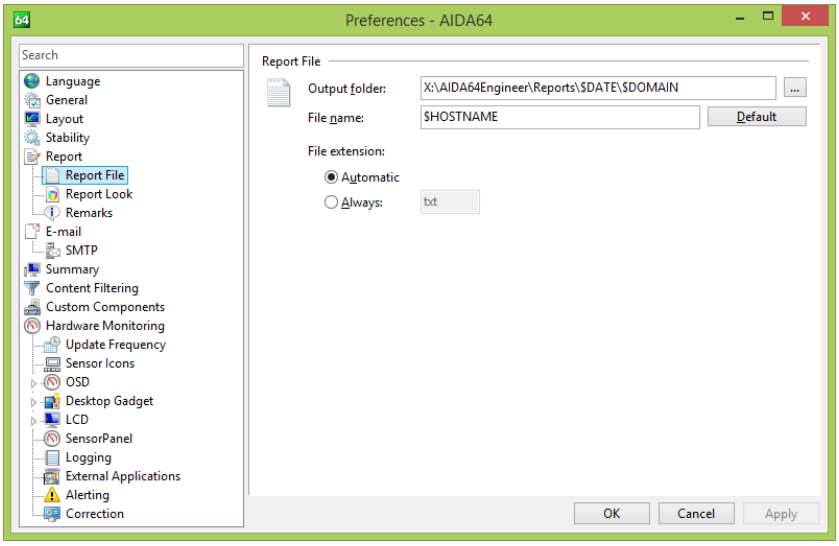
- $HOSTNAME – Inserts host name
- $USERNAME – Inserts current user name
- $DOMAIN – Inserts current logon domain
- $IPADDR – Inserts primary network adapter IP address (aaa-bbb-ccc-ddd)
- $MACADDQ – Inserts primary network adapter MAC address (AABBCCDDEEFF)
- $MACADDR – Inserts primary network adapter MAC address separated by hyphens (AA-BB-CC-DD-EE-FF)
- $UUIDMAC – Inserts DMI System UUID. When this is not available, it inserts MAC address (00000000-00000000-0000AABB-CCDDEEFF)
- $MONTH – Inserts current month (MM)
- $DATE – Inserts current date (YYYY-MM-DD)
- $TIME – Inserts current time (HH-MM-SS)

File name

This option specifies the file name to be used when the reports are saved to file. For network audits, either in the output folder name or the file name one of the variables (listed above) has to be used to prevent computers from overwriting the report files.

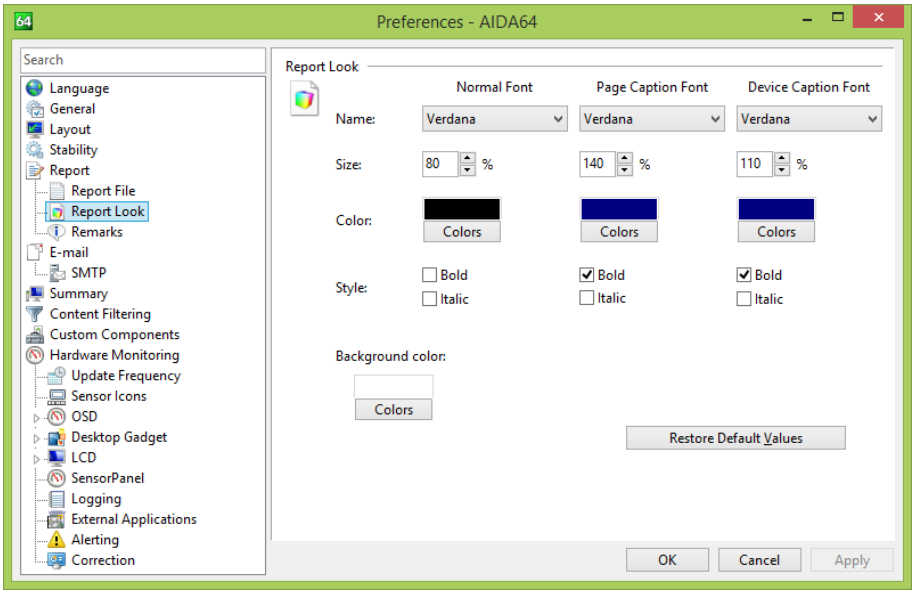
File extension

This option specifies the file name extension to be appended to the report file name. It is recommended that we keep the default “automatic” option. This option does not modify the report format, it specifies the file name extension only.



2.5.2 REPORT LOOK

This page allows us to customize the look of the reports. We can select fonts, font size and color, we can apply styles (bold, italic) and change the background color of the reports. These settings are applicable for HTML and MHTML reports only.

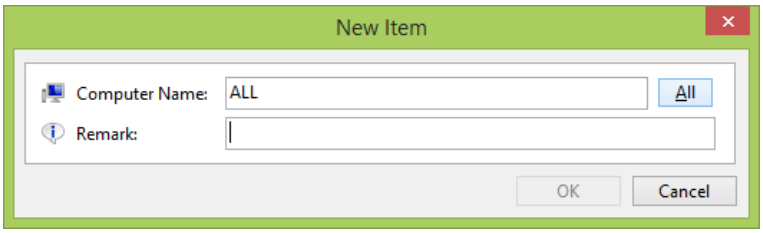


2.5.3 REMARKS

We can add remarks to the reports. These remarks will appear on the top of the reports.

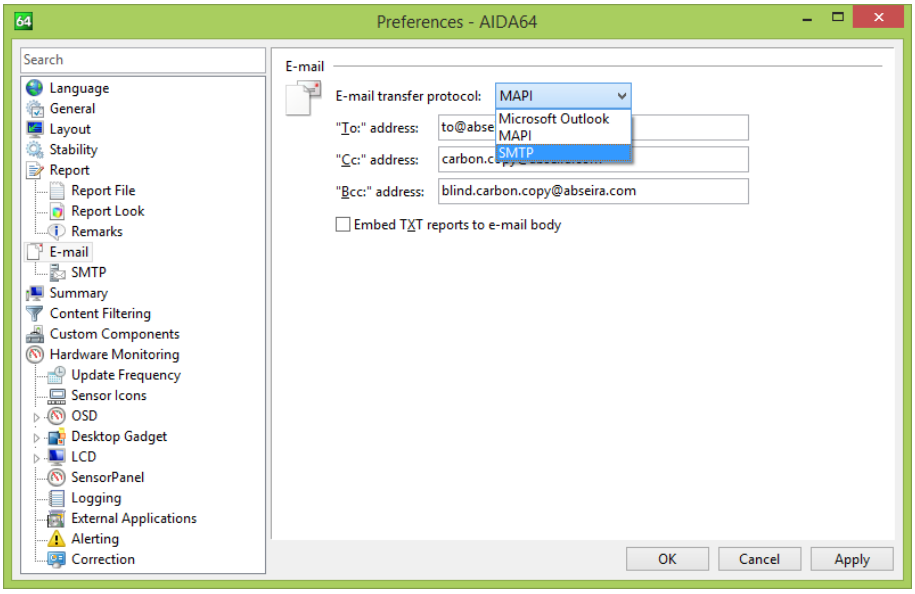
If we write “ALL” in the computer name field or press the “All” button, the remarks will appear in the reports of every computer. If we add computers individually only the reports of the listed computers will contain the remarks.

For example, we can indicate in the reports why we needed to create them.



2.6 E-MAIL

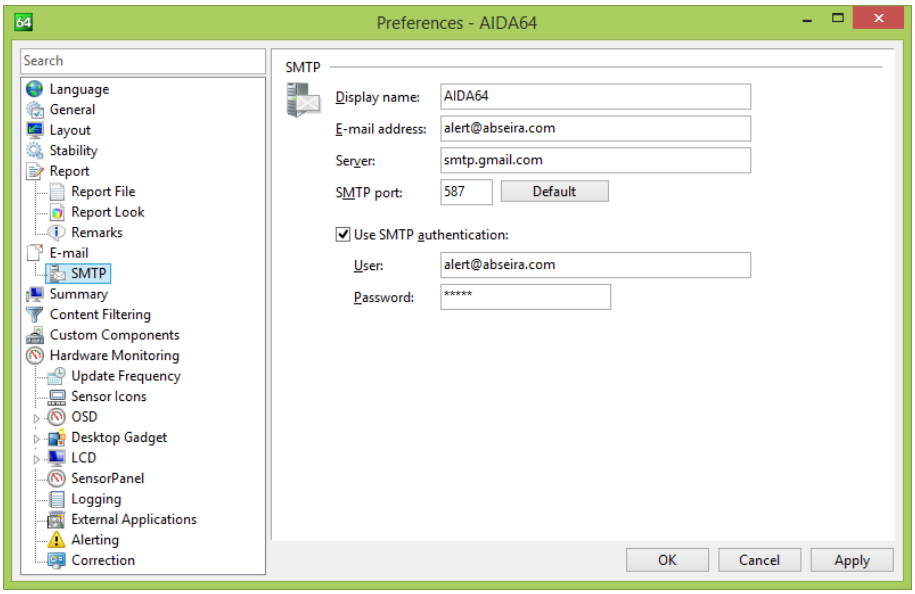
If we want to receive e-mail notifications of any alert events we need to configure the e-mail settings. Here we can specify the e-mail address to which we would like AIDA64 to send the reports (To:, Cc: and Bcc: addresses). If we save our reports to a TXT file and we enable the option “Embed TXT reports to e-mail body”, the report content will be part of the message body (and will not be attached).



SMTP is the recommended protocol for network audit. SMTP can be configured in the following submenu.

2.6.1 SMTP

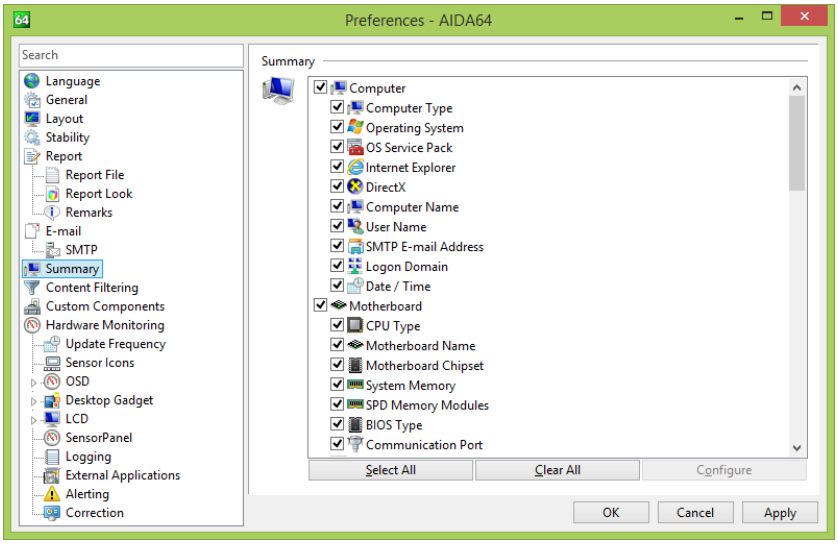
Here we need to add a display name of our choice, our e-mail address and the address of the SMTP server we use. If we use an SMTP port other than the default (port 25) we have to specify it here. If we use SMTP authentication we can add the user name and password here. For SSL enabled e-mail, currently only the Gmail SMTP is supported.



To use TLS for Gmail, choose “smtp.gmail.com” as the server with the SMTP port set to 25 or 587.

2.7 SUMMARY

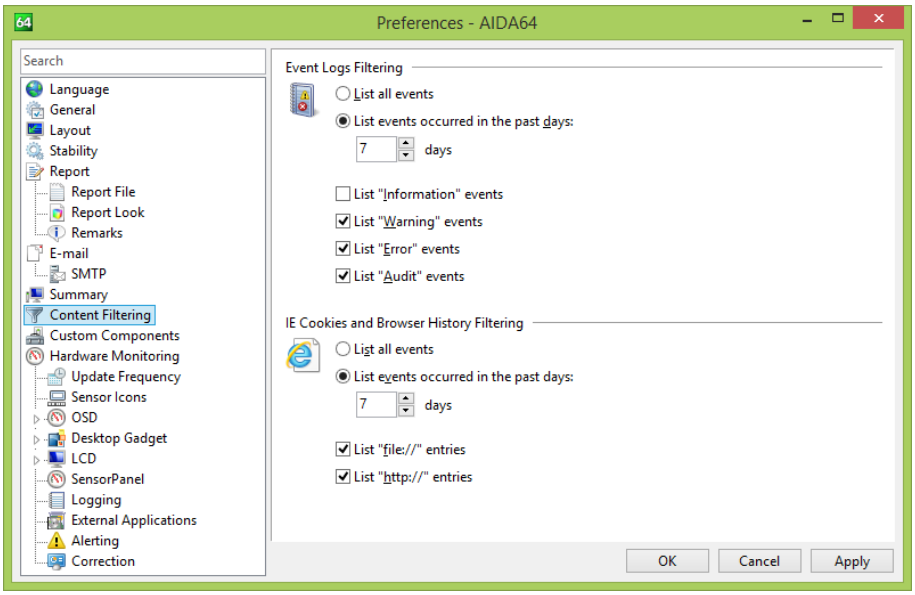
Each line of the Computer / Summary page can be either shown or hidden by checking or unchecking the check boxes in this list. The software uses these settings for creating reports too, so here we can select the components we would like to see in the reports, when we create reports using the “System summary only” option in Report Wizard or the /SUM command-line switch. This works in the same way as creating reports of selected pages that can be loaded later from a file, the difference being that Summary settings are stored together with all other settings in the aida64.ini file (under the INI group heading “[Sum]”).



2.8 CONTENT FILTERING

AIDA64 also has access to Windows event logs, IE Cookies and browser history. Various settings are available to filter these on the Content Filtering page in the Preferences menu. These can come in very handy as usually we do not want to thumb through entire event logs containing lots of irrelevant information- rather, we are typically interested in errors and warnings only.

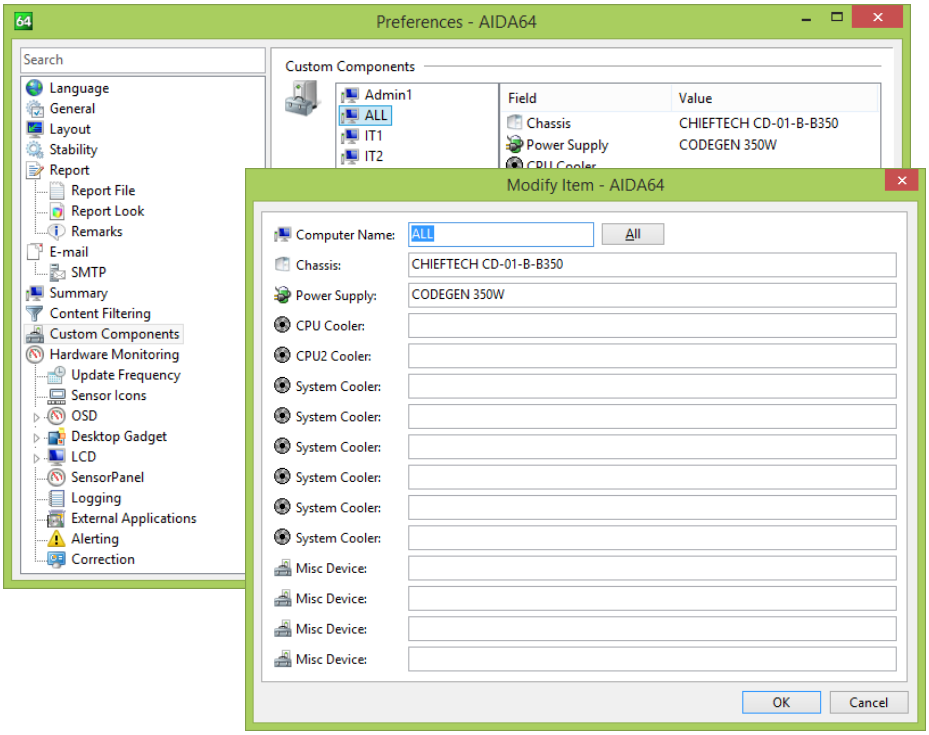
We can configure AIDA64 to list all events or events from the last few days only. (If we create reports on a daily basis it is recommended to select 1 day here.) We can also select the kind of events we want to see in the list. If we want to get rid of several pages of potentially irrelevant information, we need to uncheck the “List Information events” and “List Warning event” options.



Under the heading “IE Cookies and Browser History Filtering” we can also select a time period for which we want to see information. We can also select to get file:// and http:// entries listed.

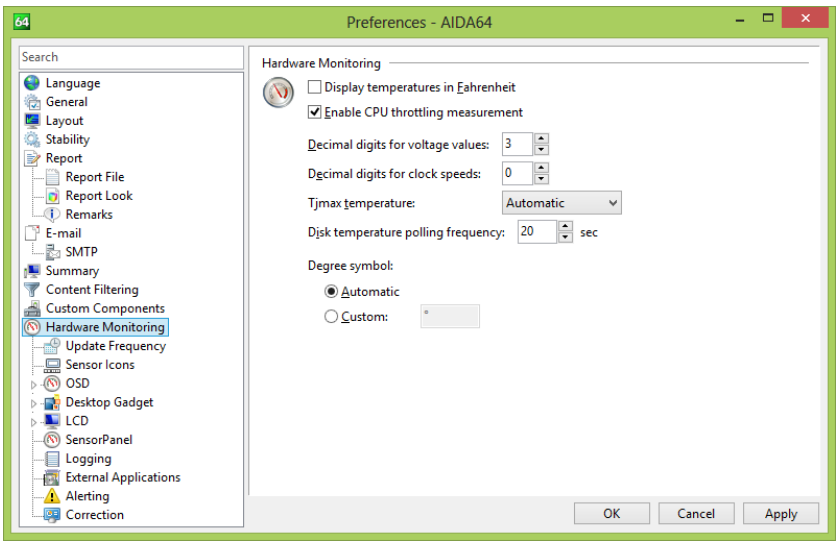
2.9 CUSTOM COMPONENTS

Custom Components can be used to specify such hardware components that cannot be detected using conventional hardware auditing methods. The information about pre-configured Custom Components will appear on the Computer / Summary page. We can add custom components to individual computers or – if we write “ALL” in the computer name field or press the “All” button – to all computers in the network at once.



2.10 HARDWARE MONITORING

In this window, we can configure the hardware monitoring services.



Display temperatures in Fahrenheit

In the sensor icons, the OSD panel, the Desktop Gadget and the SensorPanel, temperature values are displayed in Fahrenheit (rather than Celsius) when this option is enabled.

Enable CPU throttling measurement

This option can be used to enable CPU throttling measurement on Intel processors. Measuring throttling may cause system instability. Throttling is a self-protection mechanism in Intel processors to prevent physical damage due to overheating.

Decimal digits for voltage values

With this option, we can set the number of decimal digits to be displayed for voltage readings. For modern computers, selecting at least 3 digits is recommended.

Decimal digits for clock speeds

With this option, we can set the number of decimal digits to be displayed for clock speeds, e.g. CPU core clock, FSB clock and memory clock.

Tjmax temperature

With this option, we can set the Tjmax temperature that is used to calculate core temperature readings for Intel processors. When “Automatic” is selected, AIDA64 will use the default values as defined in the Intel Digital Thermal Sensors (DTS) specifications.

Disk temperature polling frequency

With this option, we can configure the interval between disk temperature measurements. Setting this option to less than 20 seconds may result in data corruption on older hard disk drives. For modern HDDs and SSDs, it is safe to enter any value of our choice.

Degree symbol

With this option, we can configure the character to be used as a degree symbol for temperature readings.

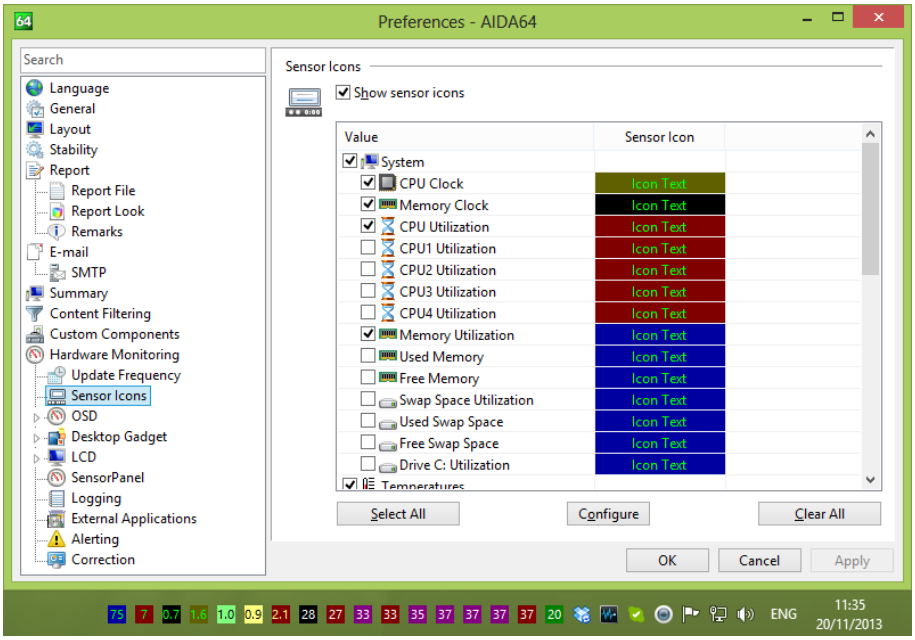
2.10.1 UPDATE FREQUENCY

Here we can set the update frequency for the *Computer / Sensor* page, the *Display / GPU* page, the Sensor Icons, the OSD panel, the Desktop Gadget, the Logitech LCD, the SensorPanel and the external applications function, and configure the logging interval for the hardware monitoring logs and the alerting function.

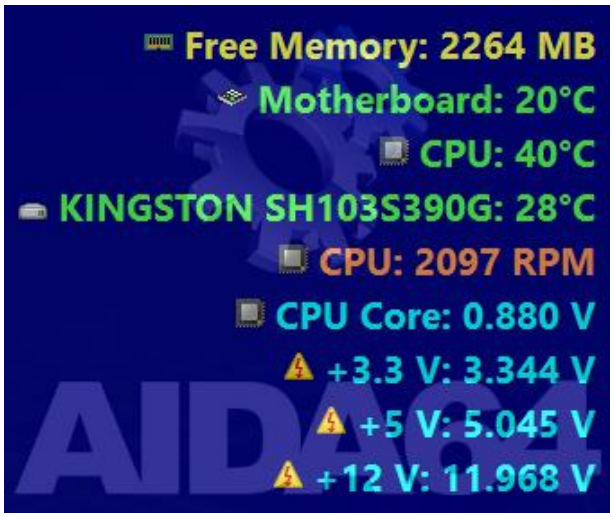
When using T-Balancer miniNG or bigNG devices, it is strongly recommended to choose an update frequency of at least 2 seconds.

2.10.2 SENSOR ICONS

Here we can activate and customize the AIDA64 sensor icons displayed on the System Tray in Windows. If we enable this function the sensor icon items selected here will be displayed on the taskbar. We can also customize the background and text color for each icon. When sensor icons are enabled a different AIDA64 icon is visible in the System Tray.



2.10.3 OSD



Here we can customize the AIDA64 OSD panel, which displays the user-selected sensor items in a window on the Windows desktop.

Show OSD panel

Here we can enable or disable the OSD panel.

Display icons on OSD panel

Both text and icons are displayed in the OSD panel when this option is enabled. Otherwise, only the text displaying the sensor readings is visible.

Display labels on OSD panel

Labels are displayed on the OSD panel when this option is enabled.

Align items to the right

Items are aligned to the right on the OSD panel when this option is enabled. Otherwise, the items are aligned to the left.

Keep OSD the topmost window

When this option is enabled, the OSD panel is always visible on top of all other windows. This feature is also called “always on top”.

OSD panel background color

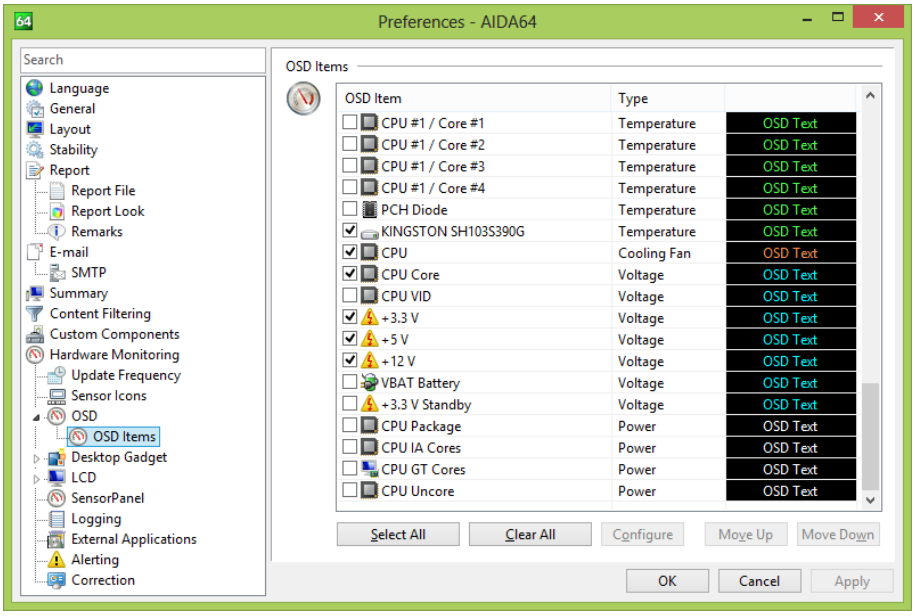
Here we can customize the background color for the OSD panel. Background color should be selected to ensure proper text readability.

O**SD panel transparency**

Here we can set the transparency level of the OSD panel. Window transparency level adjustment is not supported under Windows 95, 98, Me and NT 4.0.

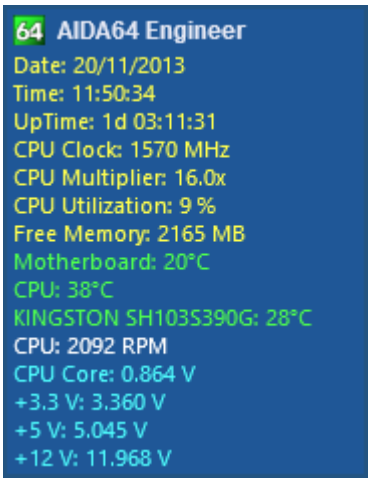
2.10.3.1 OSD items

Here we can select the items we want to display on the OSD panel. Double-clicking or selecting an item will display the settings window for the item, where we can customize its layout. Here we can modify the default label (or restore it), select the font and configure the font size, font color and font property for the displayed text.



2.10.4 DESKTOP GADGETS

Here we can choose to display sensor values on a Desktop gadget. Desktop gadgets are natively supported in Windows Vista, Windows Server 2008 and Windows 7, while an extension pack needs to be installed in Windows XP and Windows 8 to enable them ("Vista 5744 Sidebar for XP" and „8GadgetPack - Gadgets for Windows 8", respectively).



When the option "Use HKLM in Registry" is enabled, AIDA64 stores measured temperature, voltage and fan speed values in the root key HKEY_LOCAL_MACHINE in the Registry. Otherwise, the values are stored in the root key HKEY_CURRENT_USER.

We can customize the layout of the desktop gadget by clicking the wrench icon that appears when we hover the mouse over the gadget itself. It will display the options window where we can configure how we want to align the text and we can choose to break up long texts into multiple lines. If the latter option is disabled, long lines may not be fully visible in the gadget. We can also enable/disable the "AIDA64 Engineer" header and the labels.

We can customize the gadget colors either by selecting a predefined color theme or by defining the background top, background bottom, header text and border colors manually.

2.10.4.1 Desktop gadget items

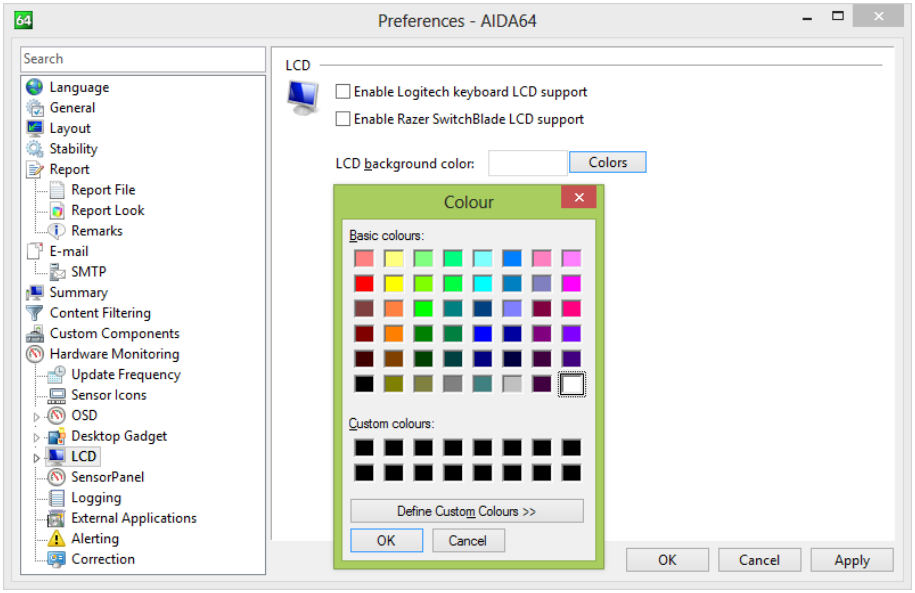
Here we can select the items we want to display on the Desktop gadget. Double-clicking or selecting an item will display the settings window for the item, where we can customize its layout. Here we can modify the default label (or restore it), select the font and configure the font size, font color and font property for the displayed text.

2.10.5 LCD

AIDA64 is capable of displaying hardware monitoring data on LCD-equipped Logitech keyboards as well as some Razer laptops and keyboards. Supported Logitech keyboards include the Logitech G15 Gaming Keyboard and the Logitech G19 Gaming Keyboard. Due to lack of programming tools and SDK, the Logitech Cordless Desktop MX 5000 Laser keyboard is not supported by AIDA64.

AIDA64 also supports Razer laptops and keyboards equipped with SwitchBlade LCD. Such products include the Razer Blade Pro Gaming Laptop, the Razer DeathStalker Ultimate Gaming Keyboard and the Razer SWTOR (Star Wars: The Old Republic) Gaming Keyboard.

Here we can also set the background color for keyboards with a color LCD display (e.g. Logitech G19 Gaming Keyboard).



2.10.5.1 LCD- items

Here we can select the sensor items we want to see on the LCD display as well as their layout. We can add the items we would like to display to a list, and modify, hide, copy or delete existing ones.

Using the arrows on the right, we can move and position items on the LCD display one pixel at a time. A preview of the LCD screen is shown in the upper left corner of the window. When we press the “Apply” button, the items will instantly appear on the LCD display.

AIDA64 is capable of displaying multiple – a maximum of 4 – pages of sensor items on the LCD. Individual pages are accessible by clicking on the page tabs at the top of the sensor item list.

We can also customize the sensor item layout, among other things we can set the font and the font size and add a shadow effect. As very small fonts are not readable on the LCD, the recommended smallest font size is 8 pixels.

We can modify the default item label and customize the label layout (color, font style, shadow). Naturally, we can only choose colors for color LCD equipped devices such as the Logitech G19 Gaming Keyboard. Other configuration options include setting the text alignment (LCD items are aligned to the left by default) and enabling/disabling the display of measurement units next to the value.

2.10.6 SensorPanel

AIDA64 can display sensor information on a fully customizable panel, called the SensorPanel, which can be configured here.

Show SensorPanel

Here we can enable/disable the SensorPanel.

Keep SensorPanel the topmost window

When this option is enabled, the SensorPanel is always visible on top of all other windows. This feature is also called “always on top”. The panel will not be visible during full-screen 3D gameplay or video playback even if this option is checked.

Lock panel position

With this option, we can lock the position of the SensorPanel on the Windows Desktop.

Lock panel size

With this option, we can lock the dimensions of the SensorPanel. When enabled, the panel cannot be resized with the mouse pointer.

Enable context menu

With this option, we can activate the right-click context menu on the SensorPanel. SensorPanel Manager, which provides further customization options, can be launched from the context menu.

SensorPanel background color

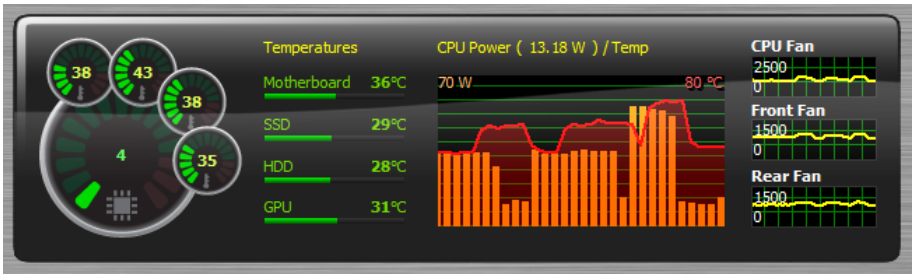
Here we can set the SensorPanel background color. If we choose a background image that fills the entire panel the selected background color will not be visible.

SensorPanel transparency

Here we can set the panel transparency level. Window transparency level adjustment is not supported under Windows 95, 98, Me and NT 4.0.

SensorPanel size

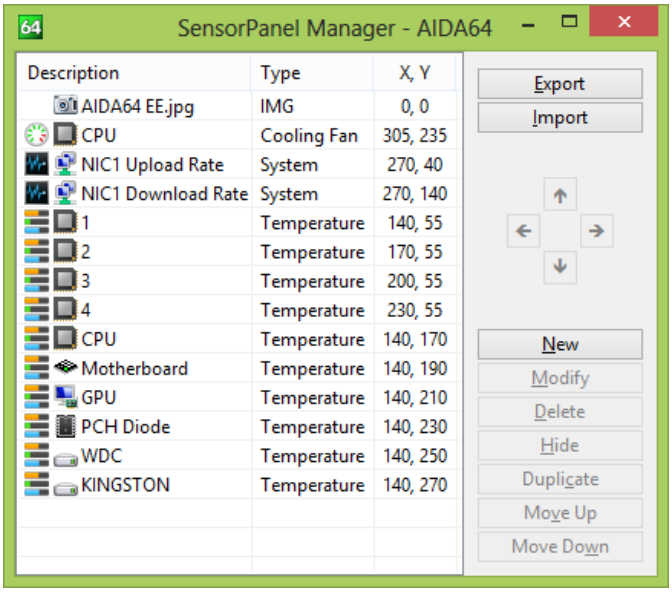
Here we can specify the dimensions of the SensorPanel in pixels. The first value defines the width of the SensorPanel, while the second value defines its height.



2.10.6.1 SensorPanel- Manager

Right-clicking the SensorPanel will display the context menu from where we can open the SensorPanel Manager. This allows us to add new items to the panel, and modify, hide, duplicate or delete existing ones.

We can move items up or down in the list. Items are displayed as layers on the SensorPanel, and this list determines the order of the layers: the topmost item in the list will be the background layer, the next one the first layer and so on. By default, an item listed under another will cover at least parts of those listed above it if they overlap each other on the panel. Because of that, we always have to make sure to make the background image the topmost item.



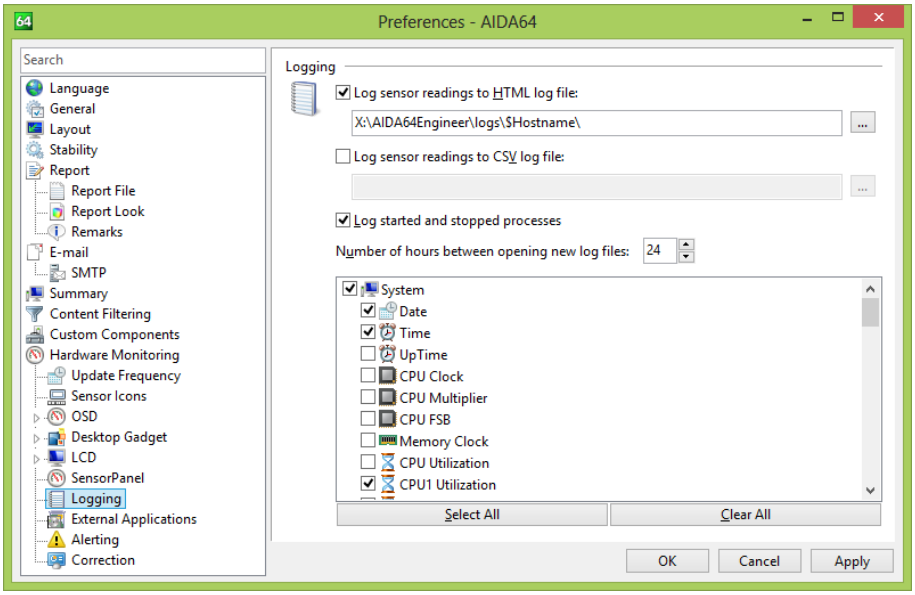
By clicking “Export”, we can save our customized SensorPanel to a file with the extension .SENSORPANEL. This file contains all graphics and settings used in the panel, so we can use it to share our SensorPanel with friends who can start using it by pressing the “Import” button.

2.10.7 LOGGING

With AIDA64, we can save sensor readings to a log file. Sensor values are saved either to an HTML or CSV file, and logging intervals can be set on the Preferences / Hardware Monitoring / Update frequency page in seconds.

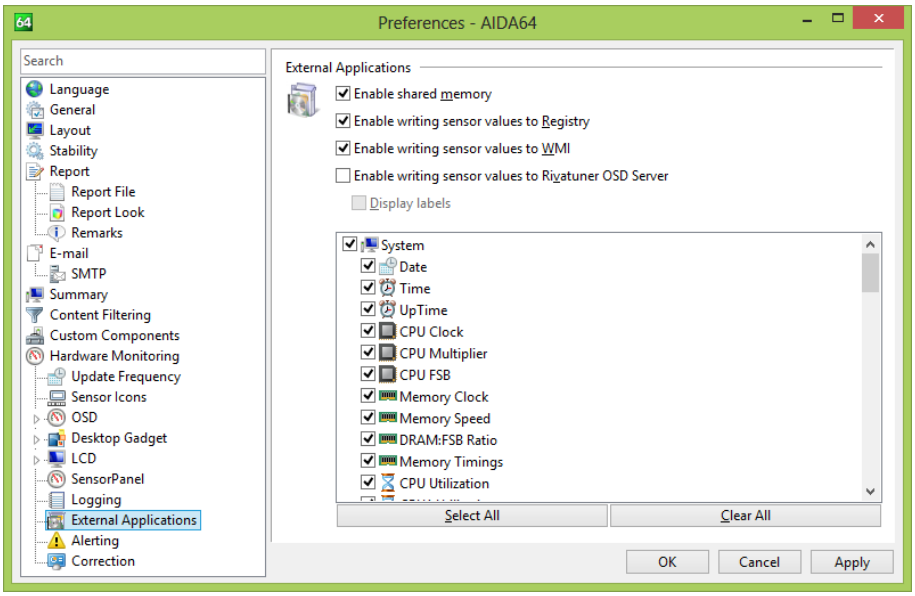
We can choose to log when processes start or stop, and specify the number of hours (between 1 and 72 hours) after which we want to open a new log file.

The items we want to include in the log can be selected using the checkboxes in the list.



2.10.8 EXTERNAL APPLICATIONS

AIDA64 offers the following options to share sensor readings with external applications: shared memory, Registry, WMI (Windows Management Instrumentation) and Rivatuner OSD Server.



Enable shared memory

One of the most common ways to share information between Windows applications is shared memory. The AIDA64 hardware monitoring module uses the shared memory “AIDA64_SensorValues”.

The shared memory content is a long string value ending in a 0x00 char, making it a classic PChar or char*.

The string is made of XML tags, but it is not a complete XML document. It includes all temperature, cooling fan and voltage values AIDA64 can measure. Temperatures are always in Celsius, even if Fahrenheit is selected in the Preferences menu. Sensor value labels are always displayed in English, they are not localized.

The buffer size (the size of the shared memory block) has to be at least 10 KB. A typical buffer size is around 1 to 3 KB, but for Abit MicroGuru 2005 based boards, for example, it can be a lot more.

For reading the contents of the shared memory, a code similar to the following Delphi procedure can be used:

```
Const
sharedmem_name = 'AIDA64_SensorValues';
Function ExtApp_SharedMem_ReadBuffer(bu:PChar;bu_size:DWord):Boolean;
Var
mappedData : PChar;
th : THandle;
Begin
Result:=False;
th:=OpenFileMapping(FILE_MAP_READ,False,sharedmem_name);
If th<>INVALID_HANDLE_VALUE Then
Begin
mappedData:=MapViewOfFile(th,FILE_MAP_READ,0,0,0);
If mappedData<>Nil Then
Begin
StrLCopy(bu,mappedData,bu_size);
If UnmapViewOfFile(mappedData) Then Result:=True;
End;
CloseHandle(th);
End;
End;
```

Here is a shared memory output example:

```
<temp><id>TMOBO</id><label>Motherboard</label><value>45</value></temp>
<temp><id>TCPU</id><label>CPU</label><value>35</value></temp>
<temp><id>TCC-1-1</id><label>CPU #1 / Core #1</label><value>58</value></temp>
<temp><id>TCC-1-2</id><label>CPU #1 / Core #2</label><value>58</value></temp>
<temp><id>TNB</id><label>North Bridge</label><value>62</value></temp>
<temp><id>TGPU1</id><label>GPU</label><value>67</value></temp>
<temp><id>THDD1</id><label>ST3320620AS</label><value>34</value></temp>
<temp><id>THDD2</id><label>ST3320620AS</label><value>35</value></temp>
<fan><id>FCPU</id><label>CPU</label><value>1430</value></fan>
<fan><id>FSYS</id><label>System</label><value>1700</value></fan>
<volt><id>VCPU</id><label>CPU Core</label><value>1.22</value></volt>
<volt><id>VP5V</id><label>+5 V</label><value>5.00</value></volt>
<volt><id>VP12V</id><label>+12 V</label><value>12.16</value></volt>
<volt><id>VBAT</id><label>VBAT Battery</label><value>3.20</value></volt>
<volt><id>VDIMM</id><label>DIMM</label><value>1.94</value></volt>
```

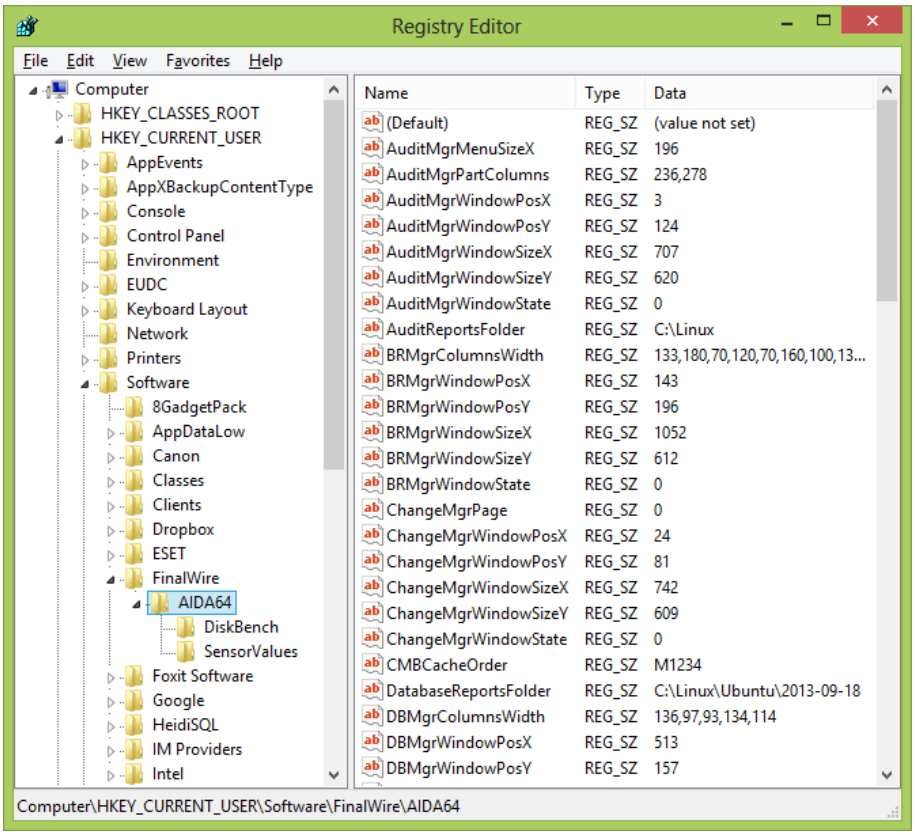
Enable writing sensor values to Registry

When we choose to share sensor values with external applications through the Windows Registry, sensor values are written to the following Windows Registry path:

HKEY_CURRENT_USER\Software\FinalWire\AIDA64\SensorValues

When AIDA64 is closed, it deletes both the registry path and the values it contains from the Registry. Temperatures are always in Celsius, even if Fahrenheit is selected in the Preferences menu. Sensor value labels are always displayed in English, they are not localized.

Here is an example of how sensor values appear in the Registry:



Enable writing sensor values to WMI

When we choose to share sensor values with external applications through the WMI, sensor values are written to the following WMI path:

Root\WMI\AIDA64_SensorValues

When AIDA64 is closed, it deletes both the path and the values it contains from the WMI. Temperatures are always in Celsius, even if Fahrenheit is selected in the Preferences menu. Sensor value labels are always displayed in English, they are not localized.

Enable writing sensor values to Rivatuner OSD Server

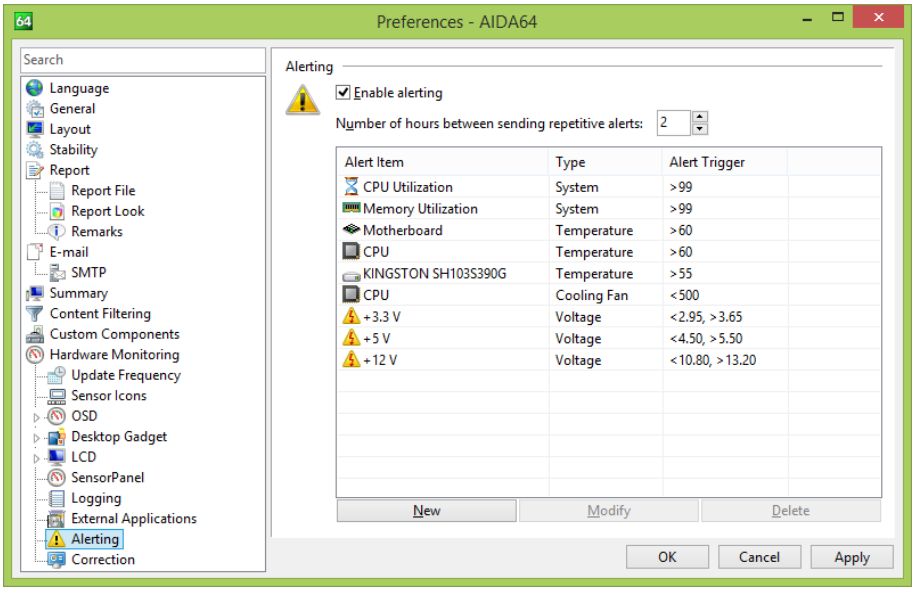
When we choose this option, AIDA64 shares sensor readings (temperatures, voltage and fan readings) with Rivatuner's OSD Server through the shared memory “RTSSSharedMemoryV2”. Rivatuner OSD Server is capable of displaying these values on an OSD panel even during full-screen 3D games or video playback.

2.10.9 ALERTING

AIDA64 can send alert notifications of several hardware-related issues. Here we can enable alerting and specify how often we would like to receive alerts of the same issue. The latter option is useful for events that persist, for example, when a cooling fan comes to a halt and does not restart.

We can add new alert triggers by clicking “New”, and edit existing triggers by clicking “Modify”. We can define individual labels for each alert trigger, and we need to set the threshold values for each by filling in the “value is below” and/or “value is above” fields.

We can select the alert method on the “Actions” tab. Available options are displaying an alert window, shutting down the computer, playing a user-selected WAV file, running a user-selected program or command and sending a notification e-mail (the subject field of which is customizable). If we choose to send e-mail notifications we need to configure the e-mail sending options in Preferences / E-mail.



2.10.10 CORRECTION

Here we can correct the displayed sensor readings.

Configuration

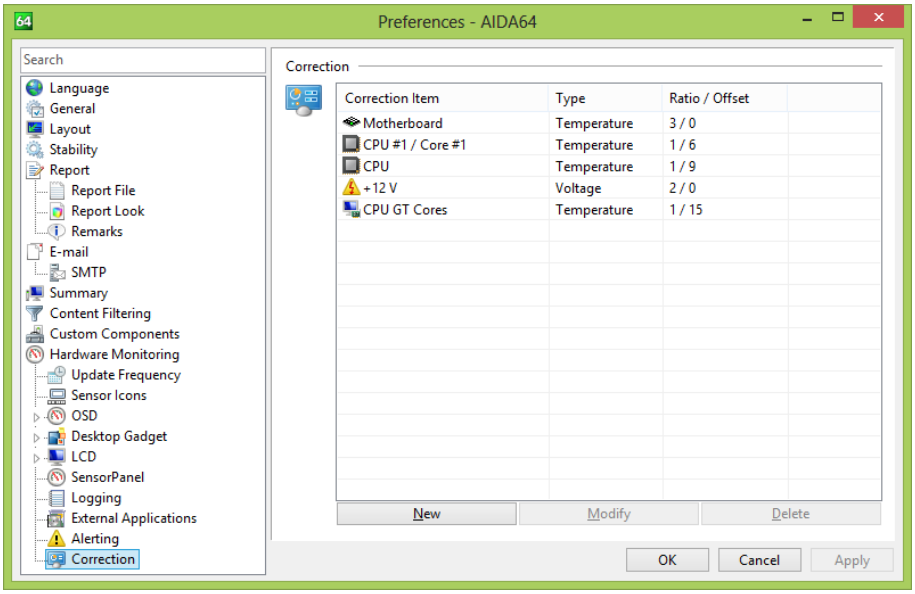
We can add new items by clicking “New”, edit existing items by pressing the “Modify” button or by double-clicking items, and delete items by clicking “Delete”.

Ratio

This option configures the ratio to be applied on the selected item. A ratio of 0.5 means effectively halving the input value. A ratio of 2.0 means effectively doubling the input value.

Offset

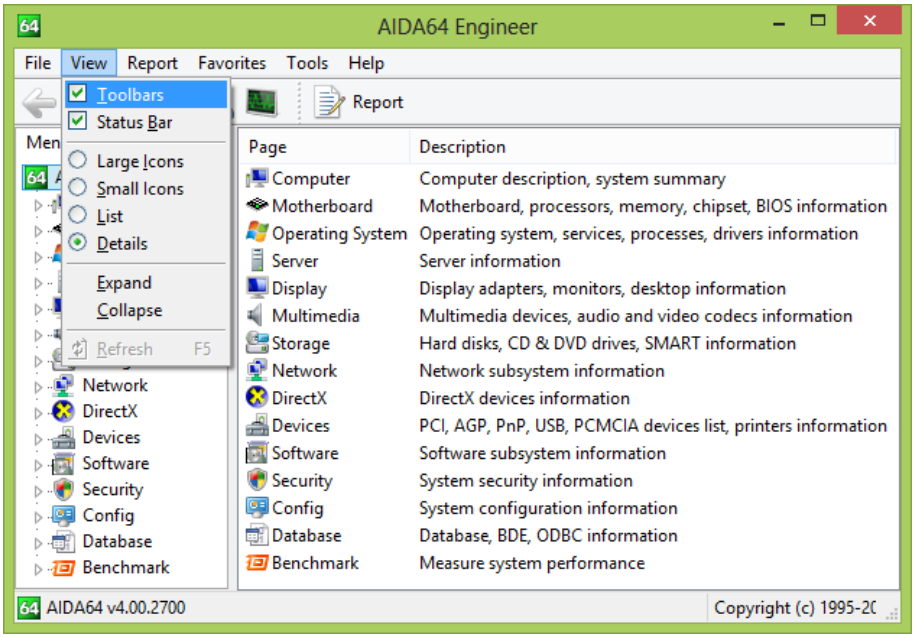
This option configures the offset to be applied on the selected item. An offset of -10 means lowering the input value by 10. An offset of +20 means adding 20 to the input value.



3 VIEW

In the View menu, we can configure the layout of the information window and hide/display the Toolbars and the status bar. We can also select the icon sizes, expand and collapse all main categories in the Page menu tree and refresh the information on certain pages.

- Toolbars – Displays or hides toolbars
- Status Bar – Displays or hides the status bar at the bottom of the program window
- Large Icons – Displays large icons in the information windows
- Small Icons – Displays small icons in the information window
- List – Items are shown in a list in the information window
- Details – Items with added description are shown in a list in the information window
- Expand – Expands all main categories in the Page menu tree
- Collapse – Collapses all main categories in the Page menu tree
- Refresh – Updates the current page



4 Report

AIDA64 is capable of providing exhaustive details about the hardware components and the software environment as well as testing the performance of the system, and it can also make reports of all this information.

4.1 Report Wizard

With Report Wizard, we can easily create reports in AIDA64. Report Wizard can be started by clicking on the Report button on the toolbar or by selecting Report Wizard in the Report menu. Report Wizard follows the standard Windows wizard layout. The first page is a welcome page, then on the second page we can select the report profile we want to use. A report profile is no more than a list of those pages from the Page menu which will be included in the report. AIDA64 offers some predefined report profiles to let users quickly create standard report files, but it also allows us to create a custom report profile by selecting the pages we want to see in the report or loading a previously created custom profile.

Report Wizard - AIDA64
Welcome to the Report Wizard
This wizard will help you to create a report of your computer. After completing this wizard you can print the report, save it to file or send it in e-mail. Please try to minimize the information you choose to include in the report, to avoid generating huge reports.
AIDA64
< Back
Next >
Cancel

These settings can be automated using command-line options. Using the switches /R, /E or /FTP, we can create full reports. We can also use custom reports if we add any of the following options after /R, /E or /FTP: /SUM, /HW, /SW, /BENCH or /CUSTOM <path>.

4.1.1 REPORT PROFILES

All pages

This report profile includes all available pages from the Page menu, from *Computer / Summary* to *Database / ODBC Data Sources.* Although this profile offers the most information, it should be used with care as the resulting report file will be very large, typically over 2 MB in size. It is recommended to compress the report files in the long run to save storage space – especially if we use AIDA64 in a network of several hundred PCs.

System Summary only

This profile includes only the *Computer / Summary* page in the report. It is useful if we want a quick summary of the hardware and the operating system and we do not need any further software information. It is possible to select the items we would like to see on the Summary page in *Preferences / Summary.*

Hardware-related pages

This profile includes all pages containing hardware configuration information. Hardware reports typically do not include any confidential information, except for motherboard and system serial number, IP and MAC addresses.

Software-related pages

This profile includes all pages containing software configuration information. Software reports typically include a great deal of confidential information and should be treated accordingly. We can exclude all software license information from the reports by using the /NOLICENSE command-line switch.

Benchmark pages

This profile includes all benchmark pages under the Benchmark category, that is the results of all memory and CPU benchmarks. If we select any of the subcategories in the Benchmark menu, we can hide reference results and/or user results by clicking the Results button on the toolbar.

Custom selection

This option offers us a flexible way to compile a custom report profile, using the Custom report profile page of Report Wizard. Custom report profiles can be saved to a report profile file (with .RPF file extension) which can be used for automatic, command-line based report creation with the command-line option /R /CUSTOM <RPF file path>.

Load from file

This option offers us a quick way to load a previously created custom report profile (with .RPF file extension). The browse button can be used to select the file in Windows Explorer.

4.1.2 REPORT FORMAT

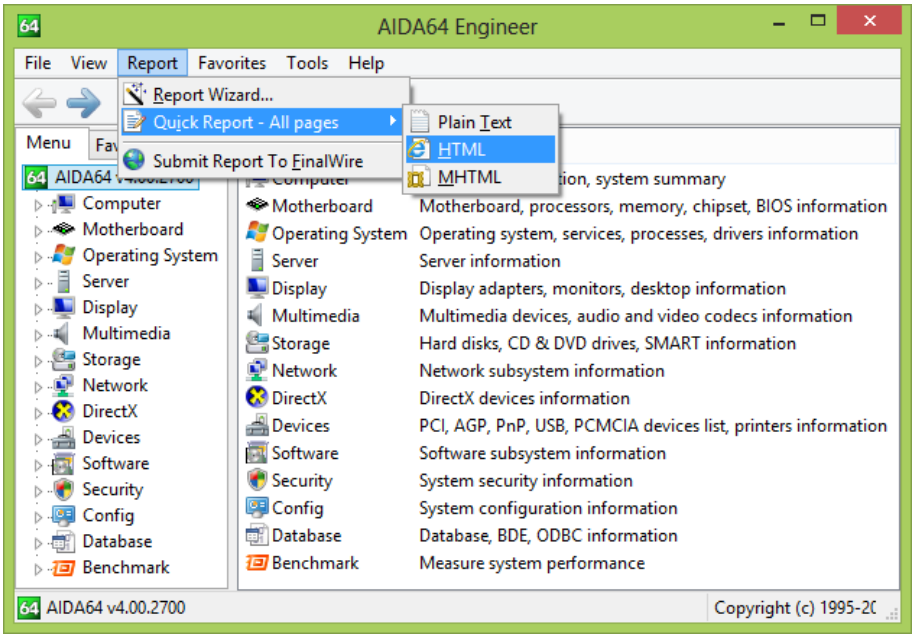
Here we can select the format in which we would like to save our reports. Available options are:

- Plain text
- HTML
- MHTML

After selecting the report format, we can start the report creation process by clicking “Finish”.

4.2 QUICK REPORT

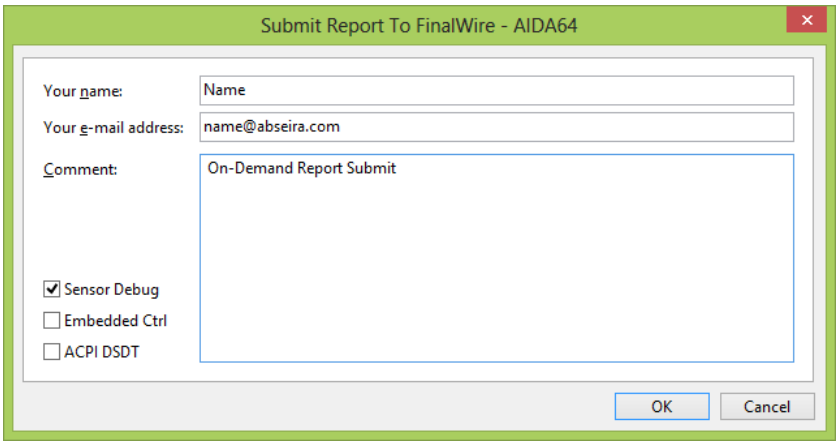
We can create quick reports of the currently active category in the Page menu tree. We can save these summaries in a TXT, HTML, MHTML file. For example, if the Storage category is active in the Page menu, only pages from this category will be included in the quick report.



4.3 Submit report to FinalWire

AIDA64 allows us to send reports to the developers directly from the application. This can come in handy when we need support, or want to report an issue or send feedback to the AIDA64 team.

When we select this option, a quick report is automatically created using a predefined report profile that does not contain sensitive information such as license keys or information about installed software. After the report has been generated, we need to click “Submit report to FinalWire” at the top of the preview window and enter our name and e-mail address (and any comments we may have). We can include further technical details in the message if we check the Sensor Debug, Embedded Ctrl and ACPI DSDT boxes. To send the report, we have to click “OK”.

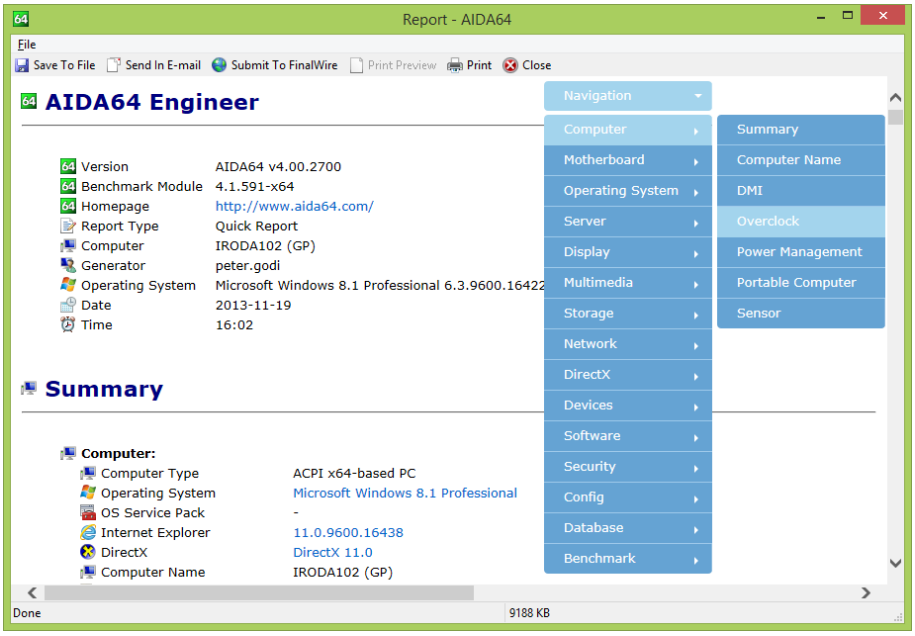


4.4 Report review

After selecting the report profile and the report format, the report creation process begins. After all information has been collected, the generated report is displayed in the Report review window. From this window, it can be printed, saved to a report file or sent in an e-mail using the SMTP, MAPI or Outlook protocol.

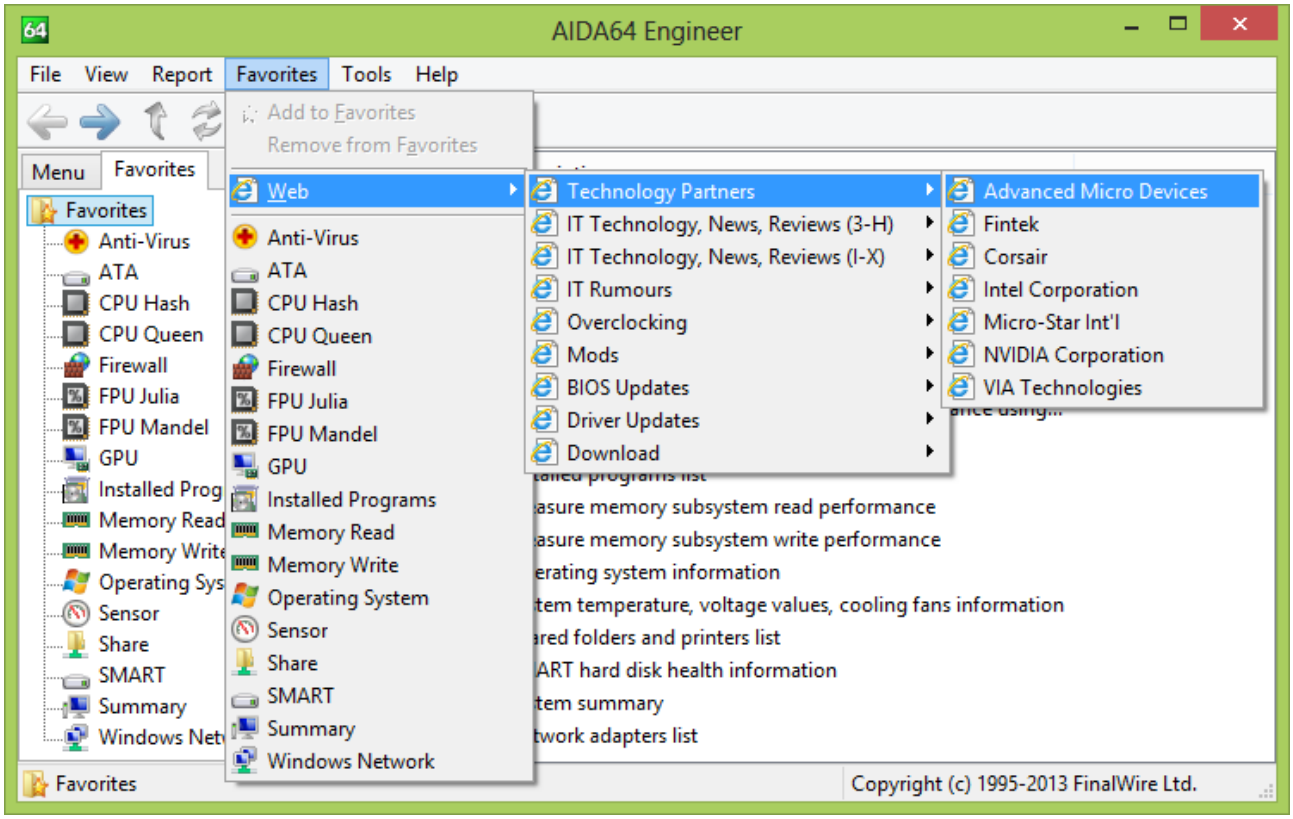
AIDA64 can automatically compress reports before saving or e-mailing them. This function can be enabled in Preferences / Report.

SQL database reports cannot be previewed in the report review window.



5 FAVORITES

In AIDA64, we can collect those Page menu items that we use the most often under the Favorite tab so that they can be easily accessed. We can create reports of our favorite items by selecting **Report / Quick report** on the main menu bar. This menu item includes links to some useful web sites, including IT news websites, hardware review sites as well as BIOS and driver update solutions.

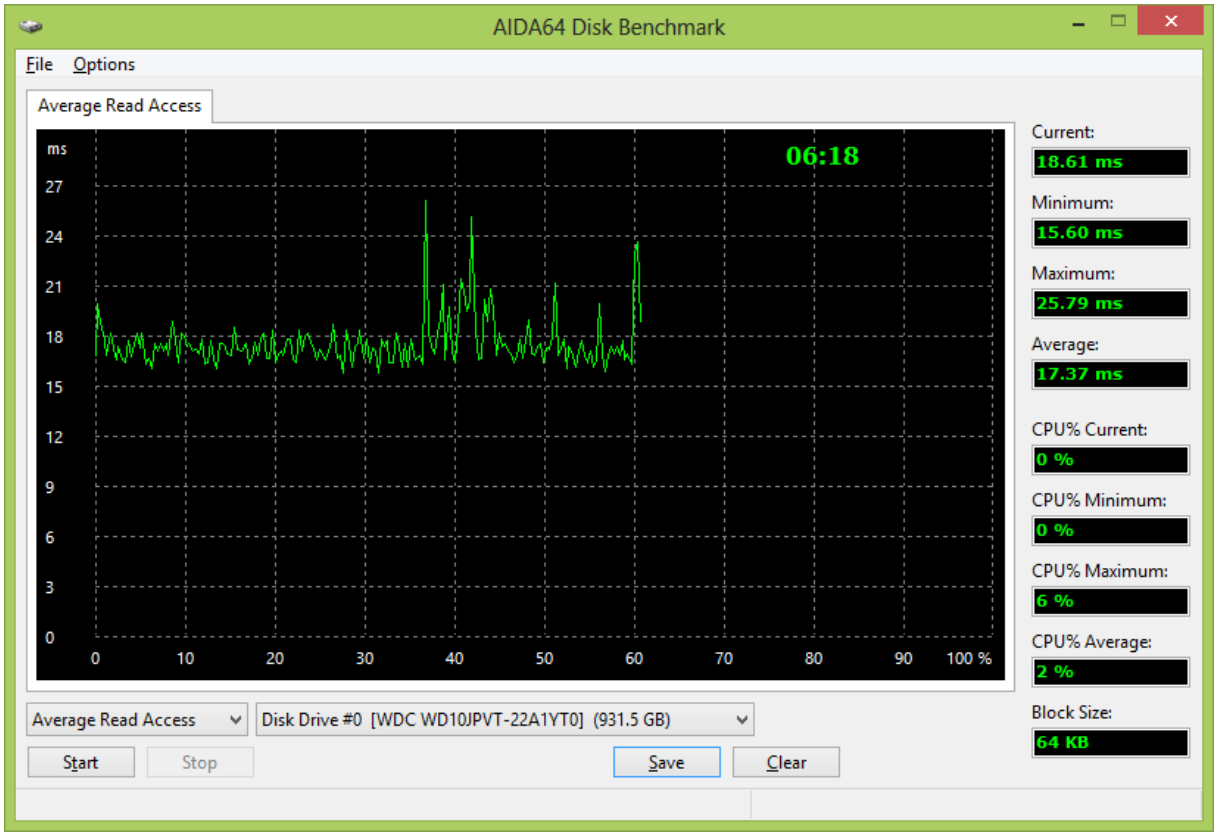


6 Tools

In this menu, we can access the AIDA64 diagnostics modules.

6.1 Disk benchmark

With this module, we can measure the performance of the PC's storage devices, including (S)ATA or SCSI hard disk drives, RAID arrays, optical drives, solid-state drives (SSD), USB drives and memory cards. It also allows us to perform write tests, which helps us detect fake products and errors on the devices. In order to attain reliable benchmark results we have to make sure to close all background applications.



Clicking “Save”, we can save the results as a PNG image, while by pressing the “Clear” button, we clear the results and restore the window to its default state.

In the Options menu, the following settings are available:

Block size

Here we can select the block size the benchmark engine uses to test the storage device. The smaller the block size, the more time it takes to complete the test.

Loop mode

In loop mode, the benchmark will restart every time it has been completed.

Display performance in KB/s

We can change the data throughput measurement unit from MB/s (default) to KB/s.

Write tests

If we enable write tests, the following additional 6 testing modes become available: Linear Write, Random Write, Buffered Write, Avarage Write Access, Linear Write + Verify and Random Write + Verify.

When performing write tests, all data will be lost on the storage device, and AIDA64 warns us three times of this when launching the process.

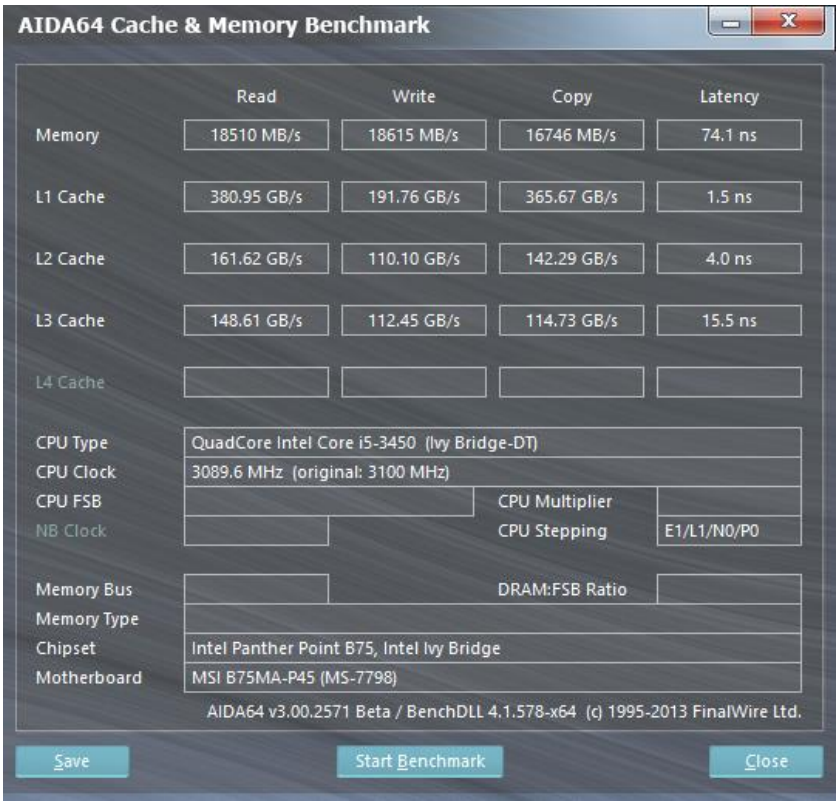
Performance monitor

To the right of the charts, we can find the performance monitoring table where we can follow in real time the current, minimum, maximum and average read speeds as well as the current, minimum, maximum and average CPU usage in percent, as well as the block size used in the test.

6.2 CACHE AND MEMORY BENCHMARK

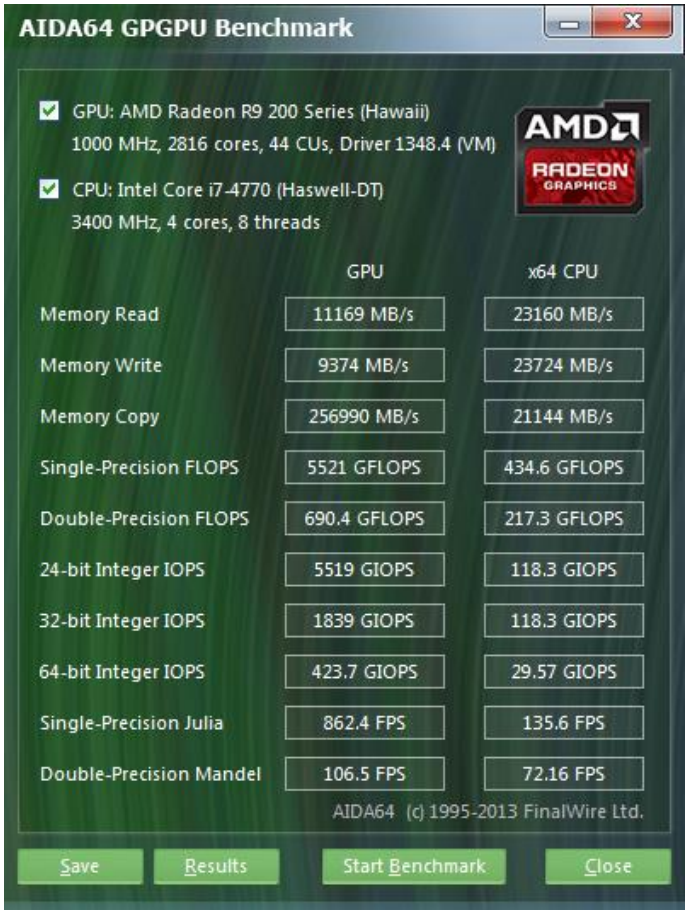
This benchmark measures the bandwidth and latency of the CPU caches and the system memory. By double-clicking any rectangle, column or row in the window, we can launch benchmarks or benchmark types individually. For example, if we double-click “Memory”, only system memory read, write, copy and latency benchmarks will be run, that is, only the operations in the given row are executed. Similarly, if we double-click “Read”, only read benchmarks will be run on all memory types, that is, only the operations in the given column are executed. If we double-click any rectangle, only the selected single benchmark will be run.

Right-clicking the “Start Benchmark” button will open a context menu in which we can choose to run all benchmarks or just the memory or cache benchmarks.



6.3 GPGPU BENCHMARK

This benchmark panel, which can be launched from Tools | GPGPU Benchmark, offers a set of OpenCL GPGPU benchmarks. These are designed to measure GPGPU computing performance using various OpenCL workloads. Each individual benchmark can be run on up to 16 GPUs, including AMD, Intel and NVIDIA GPUs, or the combination of these. Of course, CrossFire and SLI configurations as well as both dGPUs and APUs are fully supported. Currently, there is only preliminary support for HSA configurations. Basically, any computing device that is listed as a GPU among the OpenCL devices will be benchmarked.


AIDA64 GPGPU Benchmark
GPU: AMD Radeon R9 200 Series (Hawaii)
1000 MHz, 2816 cores, 44 CUs, Driver 1348.4 (VM)
CPU: Intel Core i7-4770 (Haswell-DT)
3400 MHz, 4 cores, 8 threads
AMD
RADEON
GRAPHICS
GPU
x64 CPU
Memory Read 11169 MB/s 23160 MB/s
Memory Write 9374 MB/s 23724 MB/s
Memory Copy 256990 MB/s 21144 MB/s
Single-Precision FLOPS 5521 GFLOPS 434.6 GFLOPS
Double-Precision FLOPS 690.4 GFLOPS 217.3 GFLOPS
24-bit Integer IOPS 5519 GIOPS 118.3 GIOPS
32-bit Integer IOPS 1839 GIOPS 118.3 GIOPS
64-bit Integer IOPS 423.7 GIOPS 29.57 GIOPS
Single-Precision Julia 862.4 FPS 135.6 FPS
Double-Precision Mandel 106.5 FPS 72.16 FPS
AIDA64 (c) 1995-2013 FinalWire Ltd.
Save
Results
Start Benchmark
Close

Current OpenCL benchmarks are not optimized for any GPU architecture. Instead, the AIDA64 OpenCL module relies on the OpenCL compiler which optimizes the OpenCL kernel to run best on the underlying hardware. The OpenCL kernels used for these benchmarks are compiled in real-time, using the GPU's OpenCL driver. Because of this, it is always recommended to have all video drivers (Catalyst, ForceWare, HD Graphics, etc.) updated to their latest version. For the compilation, the following OpenCL compiler options are passed: -cl-fast-relaxed-math -cl-mad-enable.

For comparison purposes, the GPGPU Benchmark Panel offers CPU measurements as well. However, the CPU benchmarks do not use OpenCL, but are written in native x86/x64 machine code, utilizing available instruction set extensions such as SSE, AVX, AVX2, FMA and XOP. These CPU benchmarks are very similar to the old AIDA64 CPU and FPU benchmarks, but this time they measure maximum computing performance (FLOPS, IOPS). The CPU benchmarks are heavily multi-threaded, and are optimized for each CPU architecture introduced since the first Pentium.

Currently, the following benchmark tests are available:

1. **Memory Read:** Measures the bandwidth between the GPU device and the CPU, effectively measuring the performance the GPU can copy data from its own device memory into the system memory. It is also called Device-to-Host Bandwidth. The CPU benchmark measures memory read bandwidth, that is, how fast the CPU can read data from the system memory.
2. **Memory Write:** Measures the bandwidth between the CPU and the GPU device, effectively measuring the performance the GPU can copy data from the system memory into its own device memory. It is also called Host-to-Device Bandwidth. The CPU benchmark measures memory write bandwidth, that is, how fast the CPU can write data into the system memory.
3. **Memory Copy:** Measures the performance of the GPU's own device memory, effectively measuring the performance the GPU can copy data from its own device memory to another place in the same device memory. It is also called Device-to-Device Bandwidth. The CPU benchmark measures memory copy bandwidth, that is, how fast the CPU can move data in the system memory from one place to another.
4. **Single-Precision FLOPS:** Measures the MAD (Multiply-Addition) performance of the GPU, otherwise known as FLOPS (Floating-Point Operations Per Second), with single-precision (32-bit, "float") floating-point data.

5. **Double-Precision FLOPS:** Measures the MAD (Multiply-Addition) performance of the GPU, otherwise known as FLOPS (Floating-Point Operations Per Second), with double-precision (64-bit, "double") floating-point data. Not all GPUs support double-precision floating-point operations. For example, current Intel desktop and mobile graphics devices only support single-precision floating-point operations.
6. **24-bit Integer IOPS:** Measures the MAD (Multiply-Addition) performance of the GPU, otherwise known as IOPS (Integer Operations Per Second), with 24-bit integer ("int24") data. This special data type is defined in OpenCL, given that many GPUs are capable of executing int24 operations in their floating-point units, effectively increasing integer performance by a factor of 3 to 5 when compared to 32-bit integer operations.
7. **32-bit Integer IOPS:** Measures the MAD (Multiply-Addition) performance of the GPU, otherwise known as IOPS (Integer Operations Per Second), with 32-bit integer ("int") data.
8. **64-bit Integer IOPS:** Measures the MAD (Multiply-Addition) performance of the GPU, otherwise known as IOPS (Integer Operations Per Second), with 64-bit integer ("long") data. Most GPUs do not have dedicated execution resources for 64-bit integer operations. Such devices emulate 64-bit integer operations on their 32-bit integer execution units. In such cases, 64-bit integer performance can be very low.
9. **Single-Precision Julia:** Measures single-precision (32-bit, “float”) floating-point performance through the computation of several frames of the popular “Julia” fractal.
10. **Double-Precision Mandel:** Measures double-precision (64-bit, “double”) floating-point performance through the computation of several frames of the popular “Mandelbrot” fractal. Not all GPUs support double-precision floating-point operations. For example, current Intel desktop and mobile graphics devices only support single-precision floating-point operations.

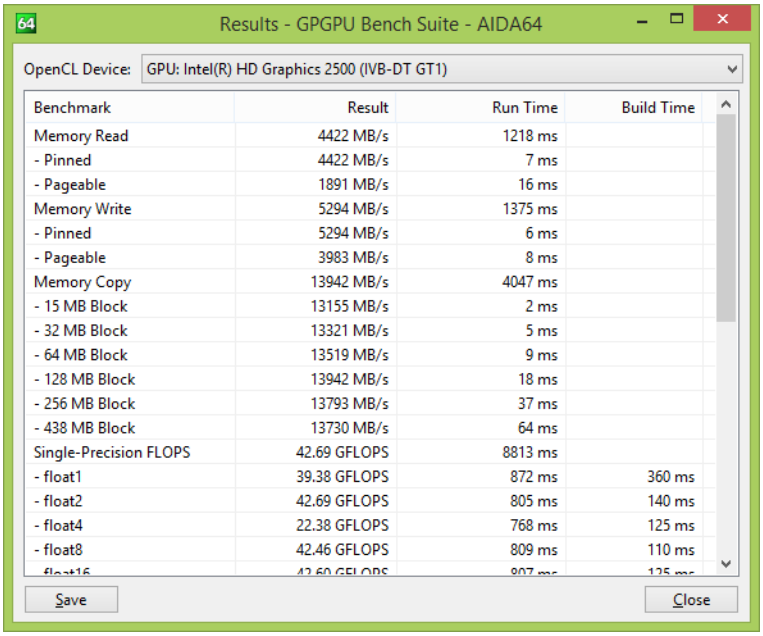
6.3.1 THE GPGPU BENCHMARK PANEL'S USER INTERFACE

You can use the checkboxes to select a GPU device or the CPU for the benchmarks. The state of the CPU checkbox will be stored after closing the panel.

You can launch the benchmarks for the selected devices by clicking the “Start Benchmark” button. If you want to run all benchmarks, but only on the GPU(s), you need to double-click the GPU column label. If you only want to run the Memory Read benchmarks on both the GPU(s) and the CPU, you need to double-click the Memory Read label. If you only want to run the Memory Read benchmark on only the GPU(s), you need to double-click the cell where the requested benchmark result will appear when the benchmark is completed.

The benchmarks are executed simultaneously on all selected GPUs, using multiple threads and multiple OpenCL context, each with a single command queue. CPU benchmarks, however, are only launched when the GPU benchmarks are completed. It is currently not possible to run the GPU and CPU benchmarks simultaneously.

If there are multiple GPUs in the system, the first result column will display an aggregated score for all GPUs. Individual GPU results are combined (added up), and the column label will look like e.g. “4 GPUs”. If you want to check individual results, you can either check only one GPU or click the Results button to open the results window.


Results - GPGPU Bench Suite - AIDA64
OpenCL Device: GPU: Intel(R) HD Graphics 2500 (IVB-DT GT1)
Benchmark | Result | Run Time | Build Time
Memory Read | 4422 MB/s | 1218 ms
- Pinned | 4422 MB/s | 7 ms
- Pageable | 1891 MB/s | 16 ms
Memory Write | 5294 MB/s | 1375 ms
- Pinned | 5294 MB/s | 6 ms
- Pageable | 3983 MB/s | 8 ms
Memory Copy | 13942 MB/s | 4047 ms
- 15 MB Block | 13155 MB/s | 2 ms
- 32 MB Block | 13321 MB/s | 5 ms
- 64 MB Block | 13519 MB/s | 9 ms
- 128 MB Block | 13942 MB/s | 18 ms
- 256 MB Block | 13793 MB/s | 37 ms
- 438 MB Block | 13730 MB/s | 64 ms
Single-Precision FLOPS | 42.69 GFLOPS | 8813 ms
- float1 | 39.38 GFLOPS | 872 ms | 360 ms
- float2 | 42.69 GFLOPS | 805 ms | 140 ms
- float4 | 22.38 GFLOPS | 768 ms | 125 ms
- float8 | 42.46 GFLOPS | 809 ms | 110 ms
Save
Close

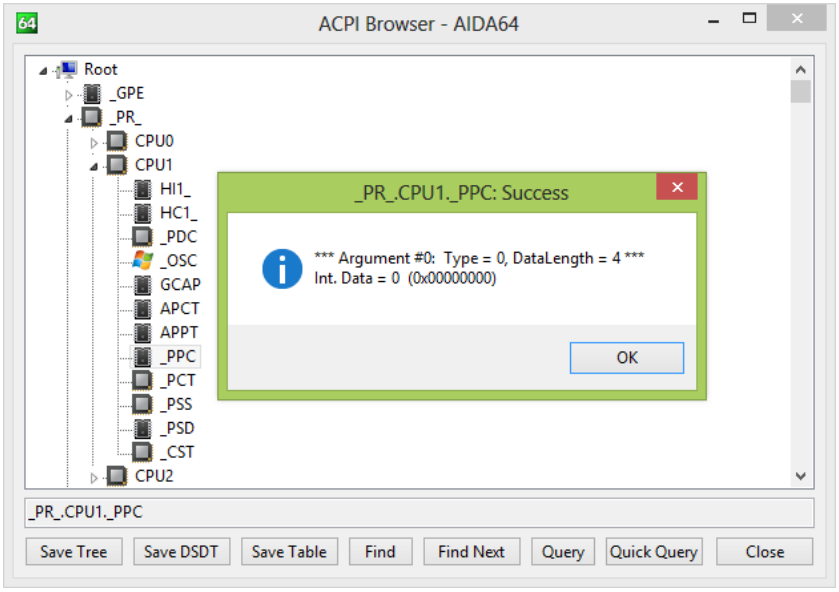
If you happen to have two GPU devices, and you disable the CPU test by unchecking its checkbox, the panel will switch to dual-GPU mode where the first column is used for displaying results for GPU1, and the second for GPU2. If you want to see the combined performance of both GPUs, just check the CPU checkbox again after the benchmark has been completed, and the interface will switch back to the default layout.

6.4 ACPI Browser

The Advanced Configuration and Power Interface (ACPI) specification provides an open standard for device configuration and power management by the operating system.

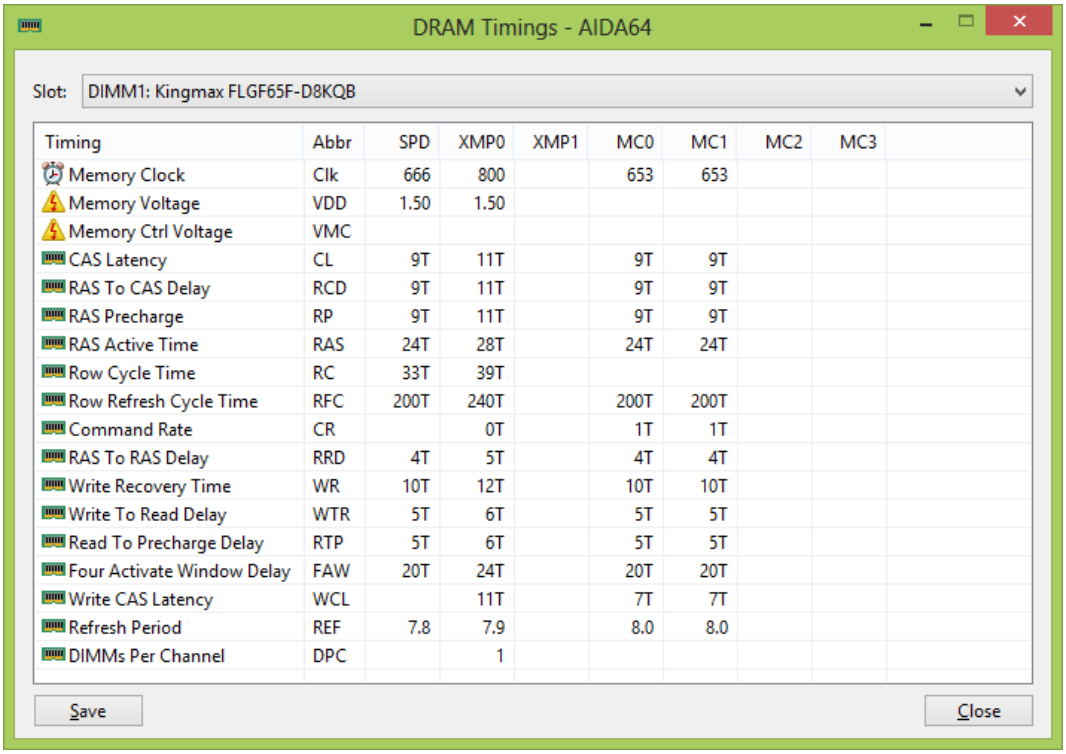
We can save either the tree, or the DSDT (Differentiated System Description Table), or the entire table to a text file, while double-clicking any item will display the code.

We can search in the item tree and perform custom queries.



6.5 DRAM Timings

This window provides extremely detailed DRAM timing information, much more than what is available on the *Motherboard / SPD* page.


DRAM Timings - AIDA64
Slot: DIMM1: Kingmax FLGF65F-D8KQB
Timing | Abbr | SPD | XMP0 | XMP1 | MC0 | MC1 | MC2 | MC3
Memory Clock | Clk | 666 | 800 | | 653 | 653 | |
Memory Voltage | VDD | 1.50 | 1.50 | | | | |
Memory Ctrl Voltage | VMC | | | | | | |
CAS Latency | CL | 9T | 11T | | 9T | 9T | |
RAS To CAS Delay | RCD | 9T | 11T | | 9T | 9T | |
RAS Precharge | RP | 9T | 11T | | 9T | 9T | |
RAS Active Time | RAS | 24T | 28T | | 24T | 24T | |
Row Cycle Time | RC | 33T | 39T | | | | |
Row Refresh Cycle Time | RFC | 200T | 240T | | 200T | 200T | |
Command Rate | CR | | 0T | | 1T | 1T | |
RAS To RAS Delay | RRD | 4T | 5T | | 4T | 4T | |
Write Recovery Time | WR | 10T | 12T | | 10T | 10T | |
Write To Read Delay | WTR | 5T | 6T | | 5T | 5T | |
Read To Precharge Delay | RTP | 5T | 6T | | 5T | 5T | |
Four Activate Window Delay | FAW | 20T | 24T | | 20T | 20T | |
Write CAS Latency | WCL | | 11T | | 7T | 7T | |
Refresh Period | REF | 7.8 | 7.9 | | 8.0 | 8.0 | |
DIMMs Per Channel | DPC | | 1 | | | | |
Save
Close

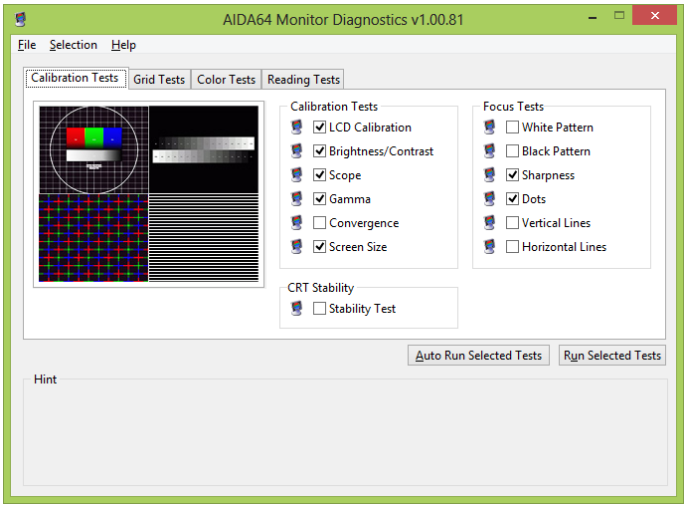
6.6 Monitor Diagnostics

This menu item launches Monitor Diagnostics, which can be used to check the capabilities and display performance of LCD and CRT displays. This module uses 45 different test screens to help us detect possible issues.

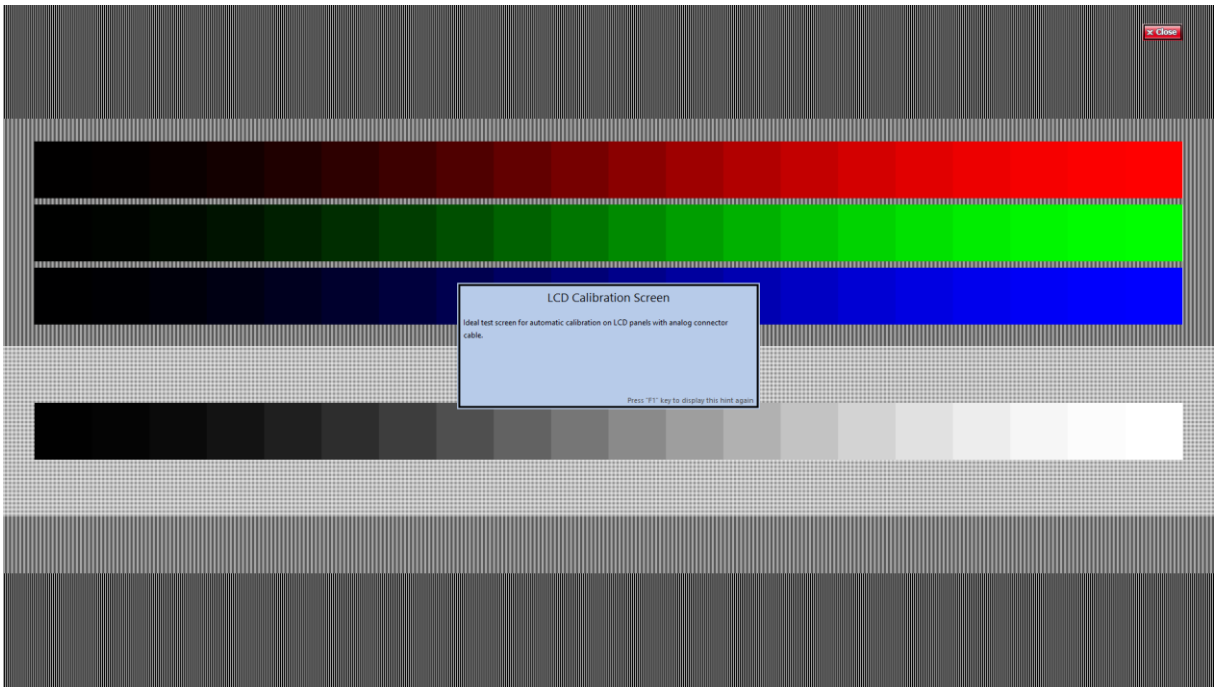
The tests are grouped under four main categories:

- Calibration tests
- Grid tests
- Color tests
- Reading tests

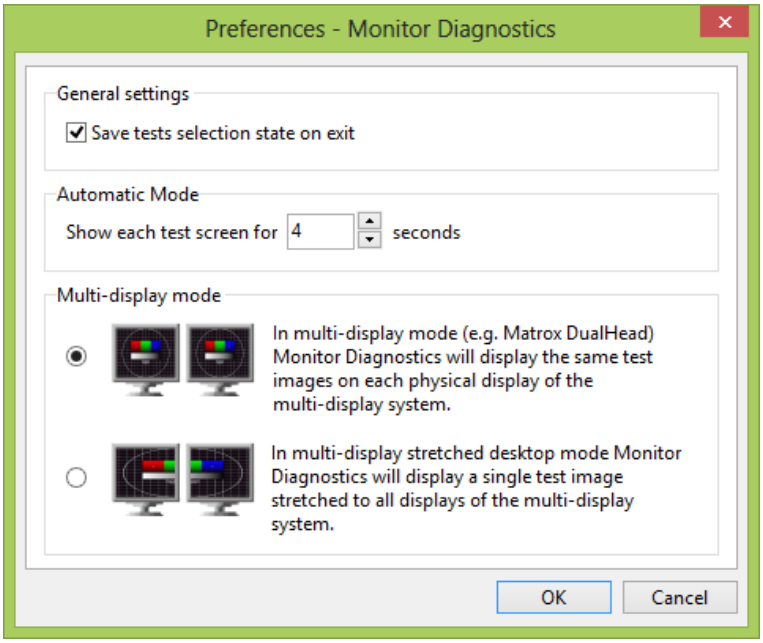
By hovering the mouse pointer over any individual test, we will be given hints as to the goal of the test as well as what we need to pay attention to. We can select which test or test groups we want to run, this way we can focus on specific issues instead of running all the tests.



The test can be run in automatic or manual mode. In automatic mode, the selected test screens will be displayed one after the other, as in a slide show, until Esc is pressed. In manual mode, we can proceed to the next test screen by pressing the Space or Page Down button. In this mode, hints are provided for each test screen regarding what we need to pay attention to. The module contains a predefined test setting for LCD displays, which can be selected in Selection / Test for LCD monitors on the menu bar.

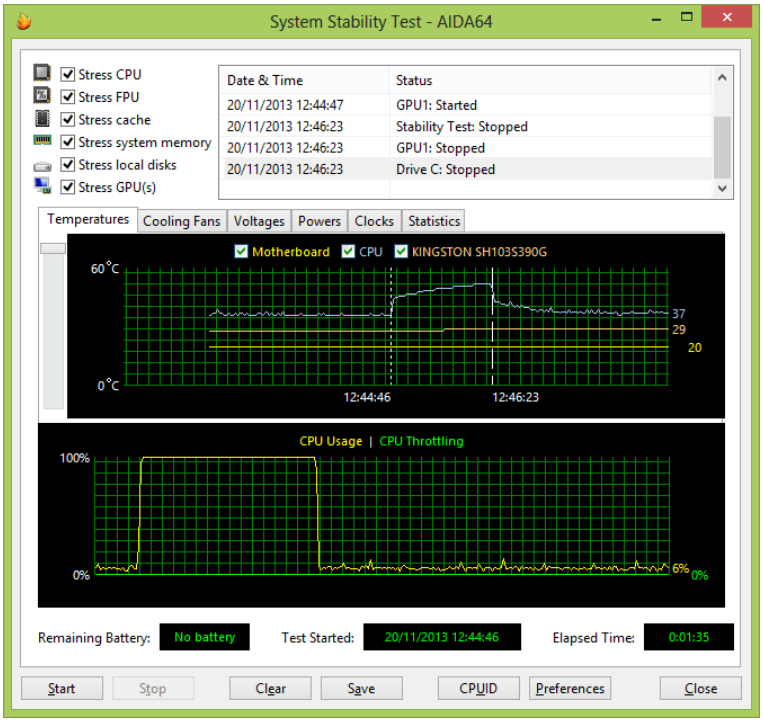

Close
LCD Calibration Screen
Ideal test screen for automatic calibration on LCD panels with analog connector cable.
Press "F1" key to display this hint again

In Preferences, we can choose to save the test selection upon exit in case we want to run the same tests next time. We can also define how often the test screens should follow each other and we can select multi-display mode. On PCs with more connected displays, it is possible to test the monitors with the same test images on each or with a single test image stretched through all.


Preferences - Monitor Diagnostics
General settings
Save tests selection state on exit
Automatic Mode
Show each test screen for 4 seconds
Multi-display mode
In multi-display mode (e.g. Matrox DualHead) Monitor Diagnostics will display the same test images on each physical display of the multi-display system.
In multi-display stretched desktop mode Monitor Diagnostics will display a single test image stretched to all displays of the multi-display system.
OK
Cancel

6.7 System Stability Test

System Stability Test can be used to stress all major system components (CPU, caches, memory, hard disk drives) at once, and find any possible stability or cooling issues. Individual stress testing processes can be launched one by one or simultaneously, and can be enabled/disabled any time during the test.

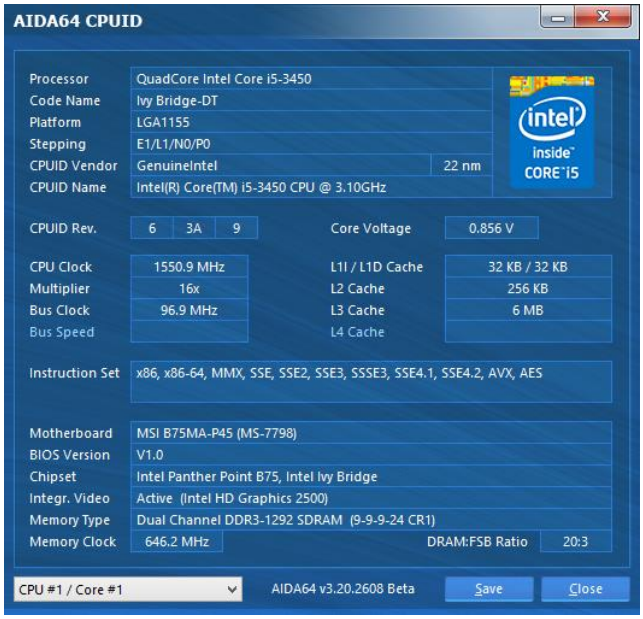


In the log window, we can see when selected tests were started and stopped. On the graphs, we can monitor CPU usage and the temperature of selected hardware components. We can select various parameters we would like to monitor using the available tabs (Temperatures, Cooling fans, Voltages, Power). On the Statistics tab, a summary is shown with the minimum, maximum and average values indicated for all monitored parameters. The module also shows battery status (if applicable) as well as the date and time when the test was started and the time elapsed since.

The stress test can be started and stopped using the “Start” and “Stop” buttons at the bottom of the windows. By pressing the “Clear” button we can clear the graphs, while the “Save” button can be used to take screen shots of the window. It is possible to launch the CPUID panel from here and open the Preferences menu.

6.8 AIDA64 CPUID

The AIDA64 CPUID panel provides detailed, real-time information about the processors. When more processors or processor cores are available we can select the one the details of which we want to see. By clicking “Save”, we can take a screenshot of the window.

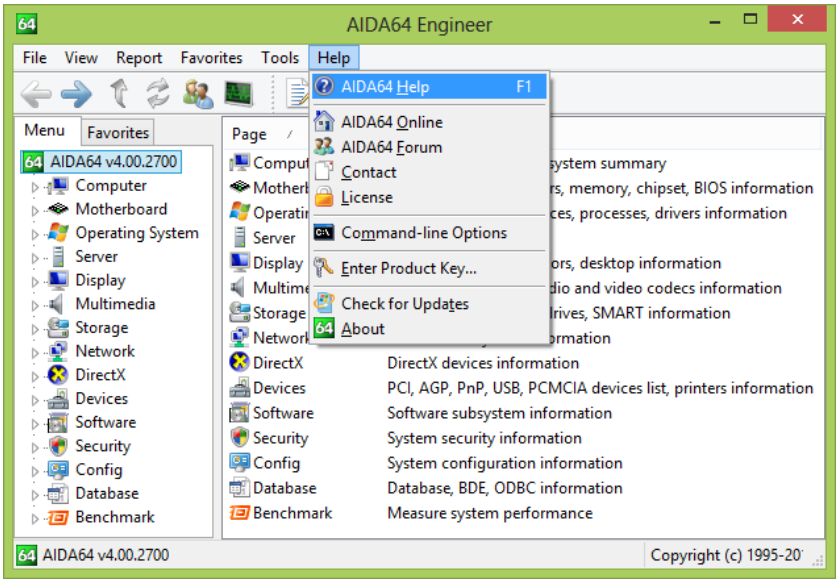


7 HELP

In this menu, beside the Help file we find links to online support resources, the end-user license agreement, product information and we can also choose to enter the product key here.

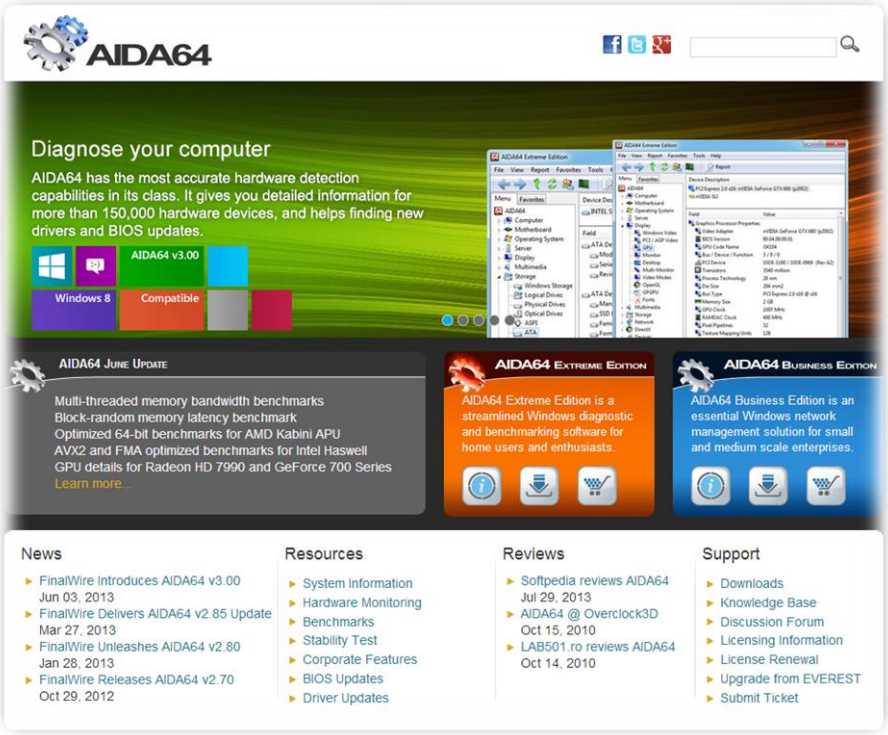
7.1 AIDA64 HELP

"AIDA64 Help F1" opens the main page of the AIDA64 help file/user manual. You can select topics in the contents page or search for any term.



7.2 AIDA64 ONLINE

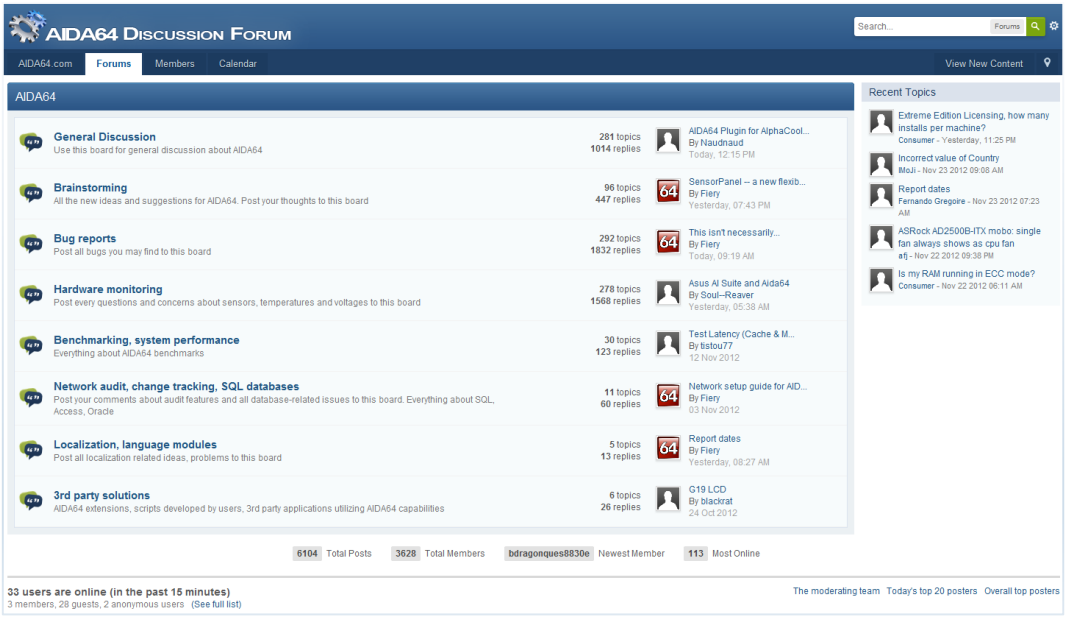
Clicking on AIDA64 Online in the Help menu will open the local AIDA64 website corresponding to the selected UI language. If there is no AIDA64 website available in the GUI language, the English-language website will load by default.


AIDA64
Diagnose your computer
AIDA64 has the most accurate hardware detection capabilities in its class. It gives you detailed information for more than 150,000 hardware devices, and helps finding new drivers and BIOS updates.
AIDA64 v3.00
Windows 8
Compatible
AIDA64 June Update
Multi-threaded memory bandwidth benchmarks
Block-random memory latency benchmark
Optimized 64-bit benchmarks for AMD Kabini APU
AVX2 and FMA optimized benchmarks for Intel Haswell
GPU details for Radeon HD 7990 and GeForce 700 Series
Learn more...
AIDA64 Extreme Edition
AIDA64 Extreme Edition is a streamlined Windows diagnostic and benchmarking software for home users and enthusiasts.
AIDA64 Business Edition
AIDA64 Business Edition is an essential Windows network management solution for small and medium scale enterprises.
News
FinalWire Introduces AIDA64 v3.00 Jun 03, 2013
FinalWire Delivers AIDA64 v2.85 Update Mar 27, 2013
FinalWire Unleashes AIDA64 v2.80 Jan 28, 2013
FinalWire Releases AIDA64 v2.70 Oct 29, 2012
Resources
System Information
Hardware Monitoring
Benchmarks
Stability Test
Corporate Features
BIOS Updates
Driver Updates
Reviews
Softpedia reviews AIDA64 Jul 29, 2013
AIDA64 @ Overclock3D Oct 15, 2010
LAB501.ro reviews AIDA64 Oct 14, 2010
Support
Downloads
Knowledge Base
Discussion Forum
Licensing Information
License Renewal
Upgrade from EVEREST
Submit Ticket

7.3 AIDA64 FORUM

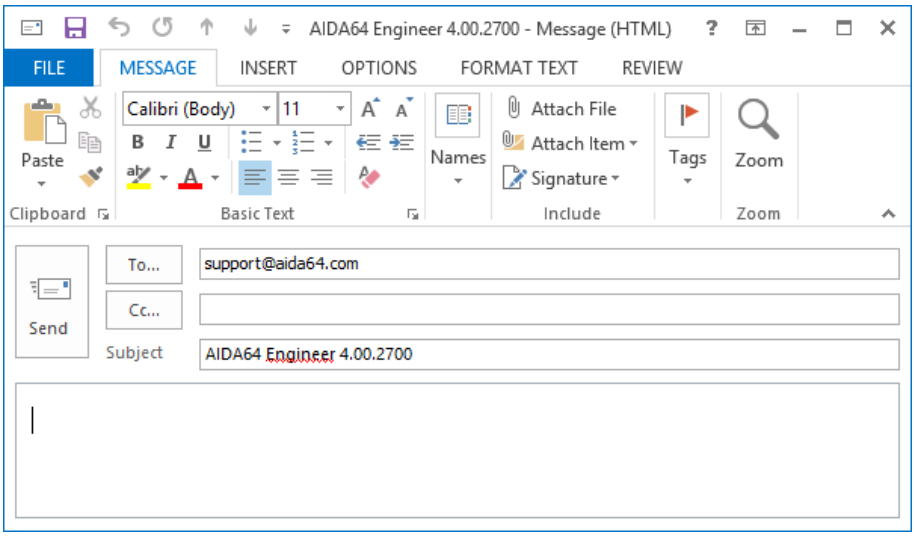
Clicking on AIDA64 Forum in the Help menu will open the English-language support forums. The developers of the software are regular visitors to the forums and are happy to answer technical questions and troubleshoot any issues.

http://forums.aida64.com/



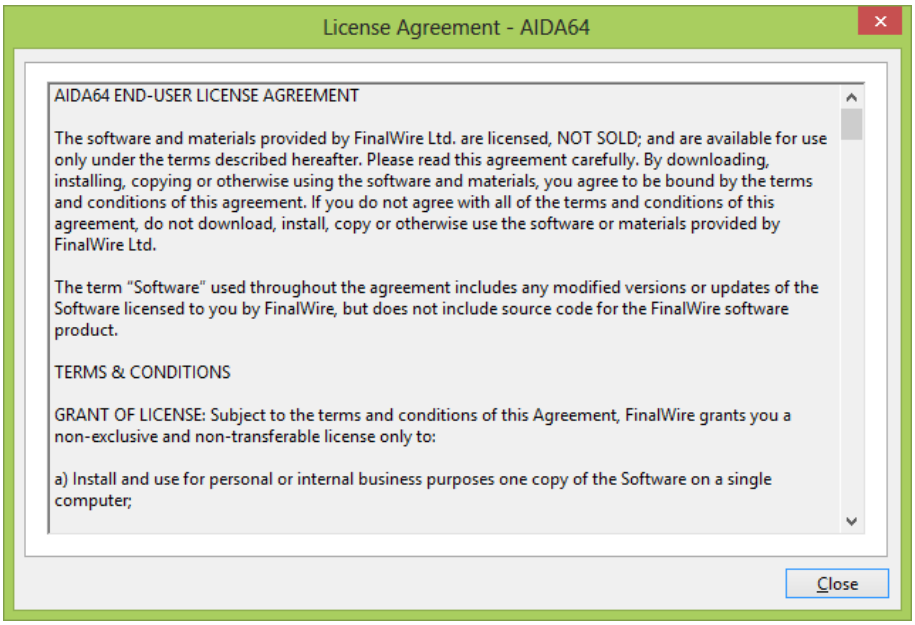
7.4 CONTACT

If a default e-mail client (for example, Outlook) is configured in Windows, clicking Contact in the Help menu will open it with a new message which can be sent to the AIDA64 support team.



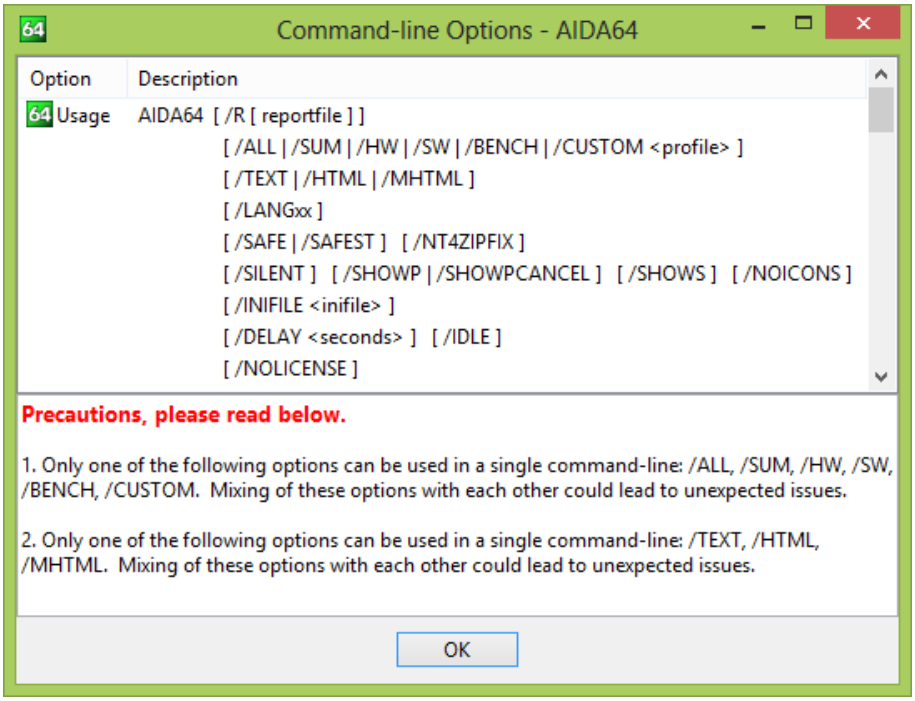
7.5 License

This menu item will display the end-user license agreement in a pop-up window. If we use the AIDA64 ZIP package we automatically accept the terms of the license agreement.


License Agreement - AIDA64
AIDA64 END-USER LICENSE AGREEMENT
The software and materials provided by FinalWire Ltd. are licensed, NOT SOLD; and are available for use only under the terms described hereafter. Please read this agreement carefully. By downloading, installing, copying or otherwise using the software and materials, you agree to be bound by the terms and conditions of this agreement. If you do not agree with all of the terms and conditions of this agreement, do not download, install, copy or otherwise use the software or materials provided by FinalWire Ltd.
The term "Software" used throughout the agreement includes any modified versions or updates of the Software licensed to you by FinalWire, but does not include source code for the FinalWire software product.
TERMS & CONDITIONS
GRANT OF LICENSE: Subject to the terms and conditions of this Agreement, FinalWire grants you a non-exclusive and non-transferable license only to:
a) Install and use for personal or internal business purposes one copy of the Software on a single computer;
Close

7.6 Command-line options

AIDA64 Engineer offers several command-line options with which we can customize network audit, automated report creation, remote connections and some security features.


Command-line Options - AIDA64
Option
Description
Usage
AIDA64 [/R [reportfile]]
[/ALL | /SUM | /HW | /SW | /BENCH | /CUSTOM <profile>]
[/TEXT | /HTML | /MHTML]
[/LANGxx]
[/SAFE | /SAFEST] [/NT4ZIPFIX]
[/SILENT] [/SHOWP | /SHOWPCANCEL] [/SHOWS] [/NOICONS]
[/INIFILE <inifile>]
[/DELAY <seconds>] [/IDLE]
[/NOLICENSE]
Precautions, please read below.
1. Only one of the following options can be used in a single command-line: /ALL, /SUM, /HW, /SW, /BENCH, /CUSTOM. Mixing of these options with each other could lead to unexpected issues.
2. Only one of the following options can be used in a single command-line: /TEXT, /HTML, /MHTML. Mixing of these options with each other could lead to unexpected issues.
OK

From Version 2.20, it is possible to use Report and Remote Connection options simultaneously in a single command-line. In such cases, the report creation process will be launched first, and after it is finished AIDA64 stays in the background waiting for incoming remote connections.

Precautions:

1. Only one of the following options can be used in a single command-line: /ALL, /SUM, /HW, /SW, /BENCH, /AUDIT, /CUSTOM. Using more of these options simultaneously could cause unexpected issues.
2. Only one of the following options can be used in a single command-line: /TEXT, /HTML, /MHTML. Using more of these options simultaneously could cause unexpected issues.

7.6.1 REPORT

- **/R [reportfile]** – this option can be used to create a report and save it to file

  When no file name is specified, the report will be written to the file specified in Preferences / Report / Report File. It is recommended to specify a full path name for the report file in the command-line. For a network audit, we should use UNC paths in folder names instead of using a mapped network drive. Reports are automatically compressed if this option is enabled in Preferences / Report. In the report file names we can use control strings (see section 10.6.10).

  Example: AIDA64 /R \\server\share\folder\$HOSTNAME /HTML /AUDIT /SILENT /SAFE

7.6.2 REPORT PROFILE

- **/ALL** – the reports created will include all pages from the page menu.
- **/SUM** – the reports created will include only the *Computer / Summary* page
- **/HW** – the reports created will include only the pages listing hardware-related information
- **/SW** – the reports created will include only the pages listing software-related information
- **/BENCH** – the reports created will include the benchmark pages only.
- **/CUSTOM [\\Server_IP_address\AIDA64\profile.rpf]** – this option loads a customized report profile

7.6.3 REPORT FORMAT

- **/TEXT** – reports will be created in plain text format
- **/HTML** – reports will be created in HTML (HyperText Markup Language) format

  HTML report layout can be customized in Preferences / Report / Report Look. Although HTML reports are ideal if we want to print reports.

- **/MHTML** – reports will be created in MHTML format (with HTML images)

  MHTML reports are basically HTML reports with small icons included. MHTML report layout can be customized in Preferences / Report / Report Look. Although MHTML reports are ideal if we want to print reports.

7.6.4 LANGUAGE

/LANGxx – where “xx” should be replaced with a 2-letter language code. The following languages are currently supported:

- AA = Arabic
- AL = Albanian
- BG = Bulgarian
- BS = Bosnian
- BY = Belarusian
- CA = Catalan
- CN = Chinese (Simplified)
- CZ = Czech
- DE = German
- DK = Danish
- EN = English
- ES = Spanish
- FI = Finnish
- FR = French
- HR = Croatian
- HU = Hungarian
- ID = Indonesian
- IT = Italian
- JP = Japanese
- KR = Korean
- LT = Lithuanian
- LV = Latvian
- MK = Macedonian
- NL = Dutch
- NO = Norwegian
- PL = Polish
- PT = Portuguese
- RO = Romanian
- RU = Russian
- SE = Swedish
- SI = Slovenian
- SK = Slovak
- SR = Serbian
- TR = Turkish
- TW = Chinese (Traditional)
- UA = Ukrainian

7.6.5 TROUBLESHOOTING

- **/SAFE** – This option activates safe mode, in which low-level PCI, SMBus and sensor scanning are disabled. For network audits, it is recommended to use this option to make sure AIDA64 does not cause system stability issues.
- **/SAFEST** – This option activates the safest mode in which kernel drivers are not loaded either.
- **/NT4ZIPFIX** – Using this option, an Iomega Zip drive related issue can be avoided on Windows NT 4.0 systems.

7.6.6 MISCELLANEOUS

- **/SILENT** – This option can be used to hide the AIDA64 icon on the System Tray (also known as Notification Area) and the bubble notifications.
- **/SHOWED** – Using this option displays a dialog box before the report is sent in e-mail. This can be useful in help desk scenarios as the dialog box lets the user enter special comments about his/her issue. This option must be used with the /E command-line option.
- **/SHOWP** – Using this option, the report creation progress can be tracked on screen, but no user intervention is allowed (can be used with the options /R, /E or /FTPUPLOAD).
- **/SHOWPCANCEL** – Using this option, the report creation progress can be tracked, and user intervention is allowed (can be used with the options /R, /E or /FTPUPLOAD).
- **/SHOWS** – Using this option, the startup process of AIDA64 can be tracked on screen.
- **/NOICONS** – AIDA64 will not display icons on its user interface. This option can be used to save network bandwidth.
- **/INIFILE <\\Server_IP_address\AIDA64\aida64.ini>** – This option can be used to tell AIDA64 where to load the settings from.
- **/DELAY [seconds]** – This option can be used to delay the startup of AIDA64 so that other programs can load faster.
- **/IDLE** – This option sets AIDA64 application process to idle (lowest) priority.

- **/NOLICENSE** – This option can be used to disable and hide all software license related information, including the *Software / Licenses* page.

7.6.7 VARIABLES

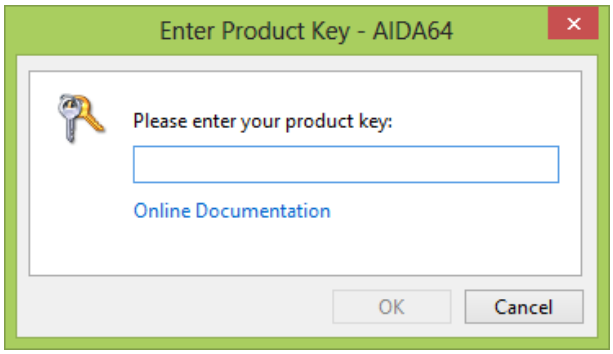
With variables, we can use dynamic path and file names in command-line switches.

- $HOSTNAME – Inserts host name
- $USERNAME – Inserts current user name
- $DOMAIN – Inserts current logon domain
- $IPADDR – Inserts primary network adapter IP address (aaa-bbb-ccc-ddd)
- $MACADDQ – Inserts primary network adapter MAC address (AABBCCDDEEFF)
- $MACADDR – Inserts primary network adapter MAC address separated by hyphens (AA-BB-CC-DD-EE-FF)
- $UUIDMAC – Inserts DMI System UUID. When this is not available, it inserts MAC address (00000000-00000000-0000AABB-CCDDEEFF)
- $MONTH – Inserts current month (MM)
- $DATE – Inserts current date (YYYY-MM-DD)
- $TIME – Inserts current time (HH-MM-SS)

The default environment variables of Windows can also be used: these are listed in AIDA64 on the *Config / Environment* page. If we want to use these we need to enclose them in percent signs, for example: %LOGONSERVER%.

7.7 ENTERING PRODUCT KEY, LICENSE INFORMATION

When launched for the first time, AIDA64 offers a 30-day trial period with limited functionality (which means that it displays the words “TRIAL VERSION” in place of some of the data/values). At this stage, you can also enter the product key which is provided in an email after purchase.



The product key can also be entered at any time during the trial period by selecting Help / Enter Product Key… in the main menu.

The software can be activated without an internet connection.

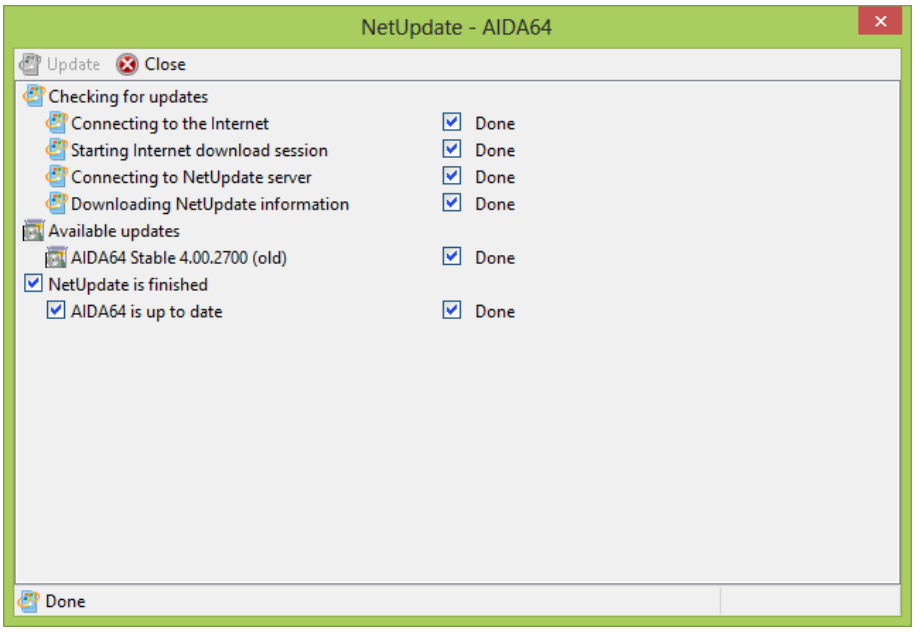
7.7.1 LOST PRODUCT REGISTRATION KEY

If we cannot find our product registration key we need to send an e-mail to sales@aida64.com and provide the following information:

- Company (if applicable)
- Full name
- E-mail address
- Purchased product
- Approx. date of purchase

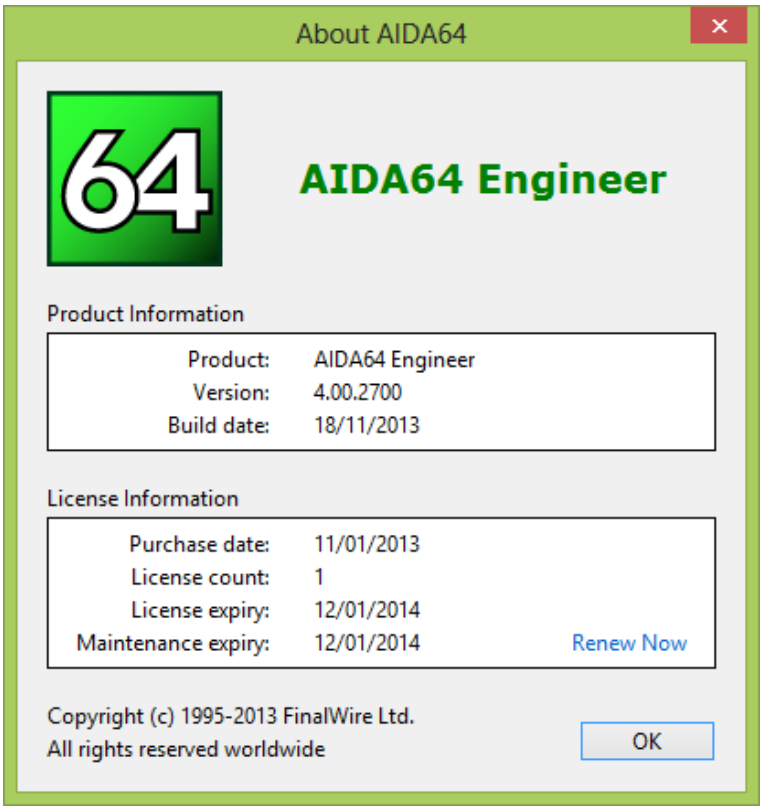
7.8 Check for updates

By clicking on this menu item, we can start a check for updates at any time. Otherwise, AIDA64 can be configured to automatically checks for updates on a regular basis.



7.9 About

The AIDA64 about page displays information about the purchase date, the license expiry date and the number of engineers who are entitled to use the given AIDA64 Engineer license. A link to the official website where we can renew the license is also available in the window.



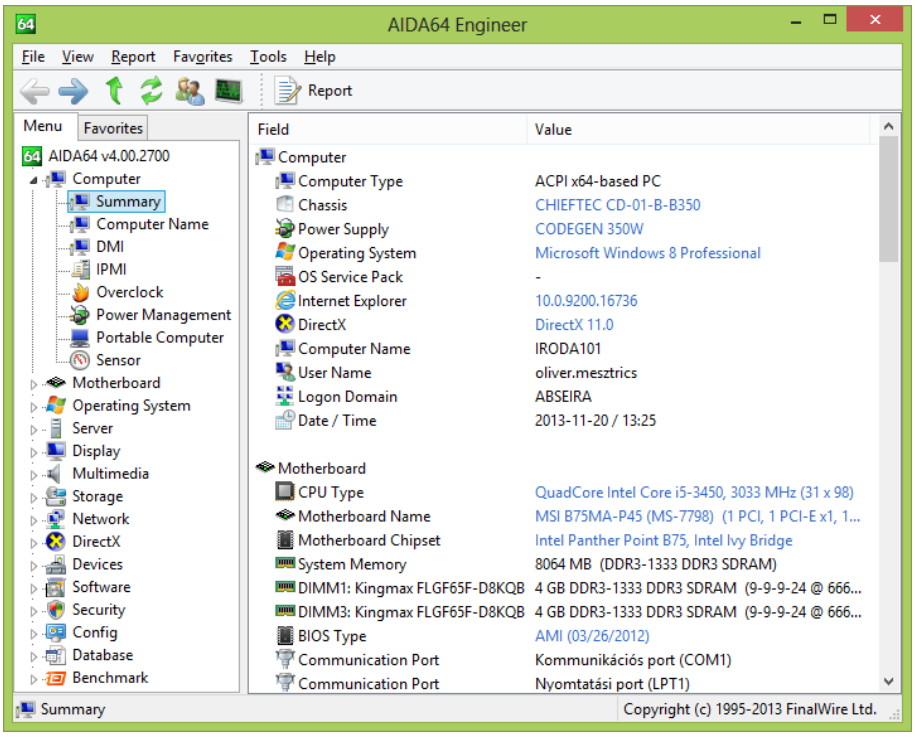
8 PAGE MENU

In the AIDA64 Page menu, individual hardware and software components as well as some other items are listed in a user-friendly, simple tree structure. The main categories are expandable and collapsible.

8.1 COMPUTER

Summary

The *Summary* page lists the main hardware and software components of the given PC. We can select the individual items we would like to see here and add custom variables to the page in **Preferences / Summary**. We can also add custom components to the *Summary* page in **Preferences / Custom components** and custom variables in **Preferences / Summary**.



Clicking on the items highlighted in blue on the page will open a context menu which provides links to the manufacturer's product information page as well as to BIOS and driver download websites.

Computer name

The Windows host name, the NetBIOS name as well as the DNS host and domain names of the PC are listed here.

DMI

Here AIDA64 displays the computer's DMI table in a human-readable format. DMI is a standard developed by DMTF and stands for Desktop Management Interface. DMI information includes descriptions of hardware components such as BIOS, motherboard, processor, memory controllers, port connectors, system slots etc. DMI information should be provided by the component or PC manufacturers, and can often be incomplete and inaccurate.

IPMI

Here AIDA64 displays the Intelligent Platform Management Interface (IPMI) system log and sensor information.

Overclock

This page displays CPU properties, CPU speed and cache information as well as motherboard, chipset, BIOS and graphics processor properties.

Power Management

This page displays information about the PC's power source and battery (if applicable). Temperature and capacity monitoring, input voltage, output voltage, output current and energy consumption measurements are also provided for HID-capable UPS devices.

Portable computer

This page displays mobile PC related physical information as well as Intel Centrino platform compliance information.

Sensor

This page provides motherboard, CPU and HDD sensor information as well as cooling fan RPM, voltage and power values in real time.

8.2 MOTHERBOARD

CPU

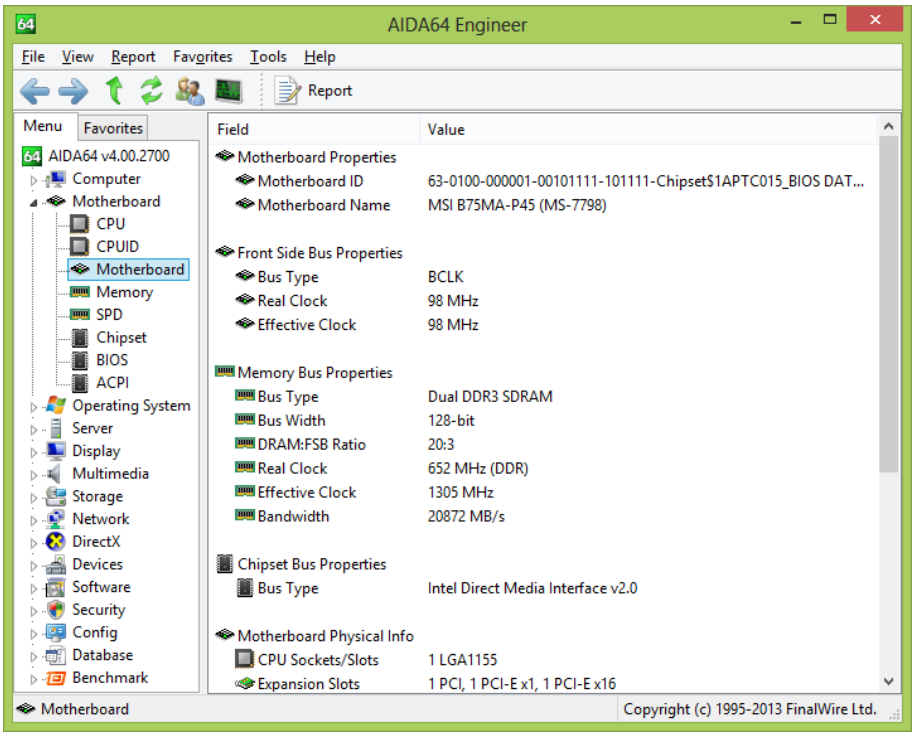
This page provides processor-related information, including CPU type, clock speed, multiplier, cache size and packaging. For Intel processors, a link to a page on the manufacturer's website listing the specifications is also provided. Available for each processor core, CPU utilization data is updated in real time.

CPUID

This page displays processor information using the CPUID instruction. Information about the availability of instruction set extensions, security, power management and virtualization features is also provided.

Motherboard

This page displays information about the motherboard, including name, front side bus properties, memory bus properties, chipset bus properties and manufacturer information.



Memory

This page provides memory information, including physical and virtual memory, swap file size and Physical Address Extension (PAE). The page is updated dynamically, which makes it possible for us to check memory utilization and free memory in real time.

SPD

This page provides information about the installed memory modules, including clock speed, timings, voltages. We can get detailed information about each installed module by selecting the appropriate DIMM slot. At the bottom of the page, information about XMP, EPP and AMP memory profiles is also provided.

Chipset

This page provides information about the motherboard chipset (north and south bridge), including memory timings, installed memory modules, supported memory types and integrated graphics and audio controllers.

BIOS

This page displays system and video BIOS information. Asus ATK and Intel XTU are used to provide current BIOS settings.

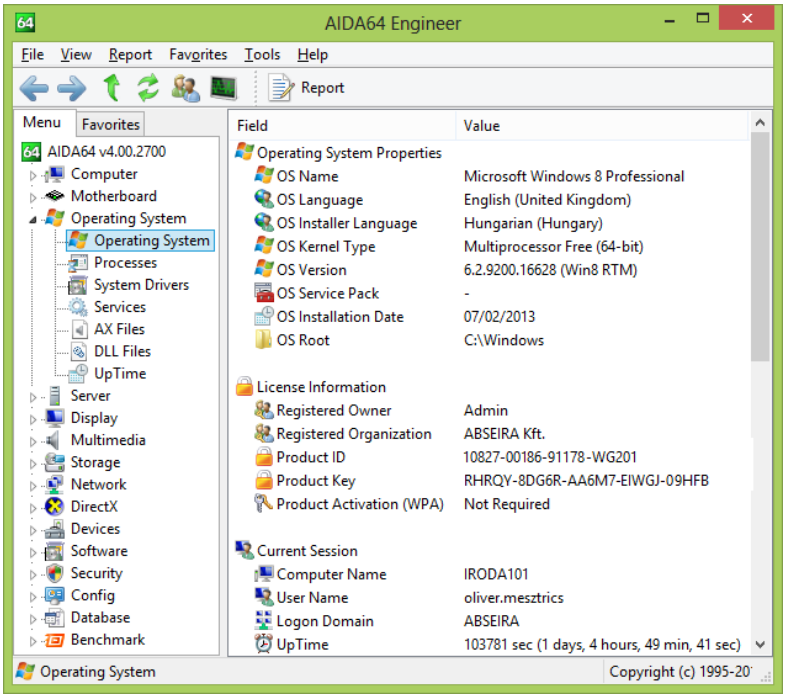
ACPI

This page displays the Advanced Configuration and Power Interface (ACPI) table properties. On the SLIC table, we can see information about the Windows license, while at the bottom of the DSDT table, we can check NVIDIA SLI and Lucid Virtu certifications.

8.3 OPERATING SYSTEM

Operating system

This page displays operating system information, including Windows version, license information, product key, session statistics and operating system components and features.



Processes

This page lists all running processes together with their properties.

System drivers

This page lists all installed system drivers together with their properties and status.

Services

This page lists all running and terminated processes. A green icon at the beginning of each row indicates that the process is running, while a red icon is displayed for processes that have (been) stopped. It is possible to start or stop the selected process by clicking the Start/Stop button on the toolbar.

AX Files

This page lists all installed DirectShow filter plug-ins (codecs). To view file properties, double-click on the file name.

DLL Files

This page lists all installed DLL files. To view file properties, double-click on the file name.

Uptime

This page provides Windows uptime information and “blue screen” statistics. Uptime statistics are based on the Windows system event log. By increasing the maximum log size of the system event log, we can get statistics covering a longer period of time.

8.4 SERVER

Share

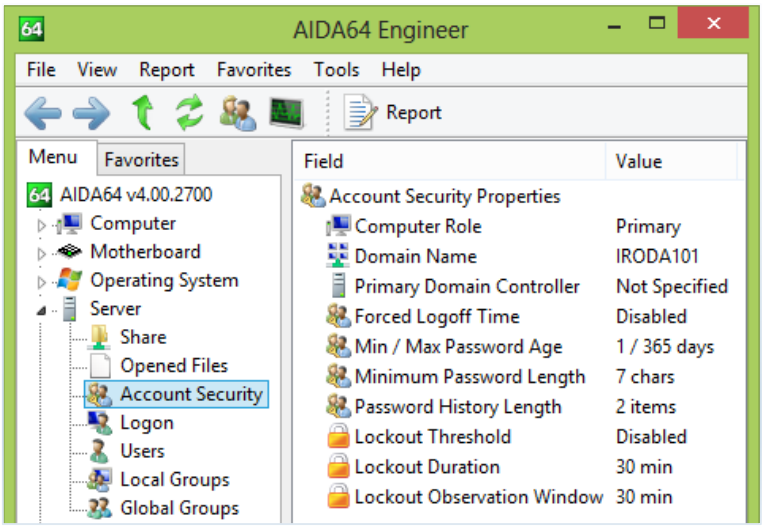
This page lists the shared resources on the network (folders, printers). We can open the shares or remove those we do not need.

Opened files

This page lists files and folders opened locally or remotely on the computer together with the name of the user who opened them.

Account security

This page displays information about the security settings and password policy used in the domain.



Logon

This page lists all the users who are currently logged on.

Users

This page lists the domain users. If we do not use a domain local users are listed here. By double-clicking the information window at the top, we can modify user and group settings.

Local Groups

This page lists the local groups. By double-clicking the information window at the top, we can modify the group settings.

Global Groups

This page lists the global groups. By double-clicking the information window at the top, we can modify the group settings.

8.5 DISPLAY

Windows Video

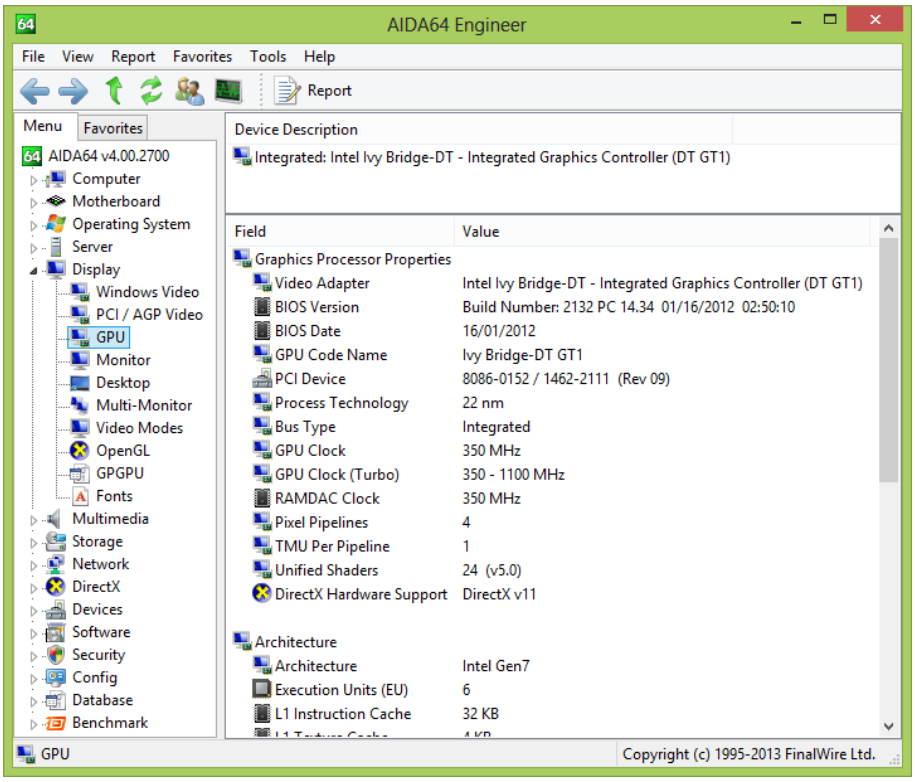
This page lists the available graphics adapters and information about the installed drivers. Double-clicking a graphics adapter will load the Windows Display Properties/Screen Resolution window, where we can modify our display settings.

PCI / AGP Video

This page lists the available PCI, AGP and PCI Express graphics adapters.

GPU

This page provides detailed GPU information, such as manufacturer, GPU version, GPU clock, number of processing units, fill rate, memory and utilization. If we have more GPUs installed in our PC we can select the one we are interested in. The page is updated dynamically in real time, which enables us to monitor actual clock speeds and utilization. Links to driver download websites are provided at the bottom of the page.



Monitor

On this page, we can review the monitor properties, including physical information and supported video modes. Links to driver download websites are provided at the bottom of the page.

Desktop

This page lists the desktop properties, including resolution, color depth, font resolution, refresh rate as well as the individual desktop effects.

Multi-monitor

This page lists the connected monitors. If there are more monitors available the primary display is indicated. Monitor resolution and monitor hierarchy are also displayed.

Video Modes

This page lists all available video resolution, color depth and refresh rate options.

OpenGL

This page provides detailed information about supported OpenGL functionality.

GPGPU

This page provides information about the available GPGPU frameworks which enable general-purpose computing on graphics processing units. The GPGPU module of AIDA64 supports the latest versions of AMD Stream, Microsoft Direct3D Compute Shader, NVIDIA CUDA, OpenCL and S3GP. Links to driver download websites are provided at the bottom of the page.

Fonts

This page enumerates all installed fonts.

8.6 MULTIMEDIA

Windows Audio

This page lists the audio devices available in Windows.

PCI / PnP Audio

This page lists the PCI / PnP audio devices.

HD Audio

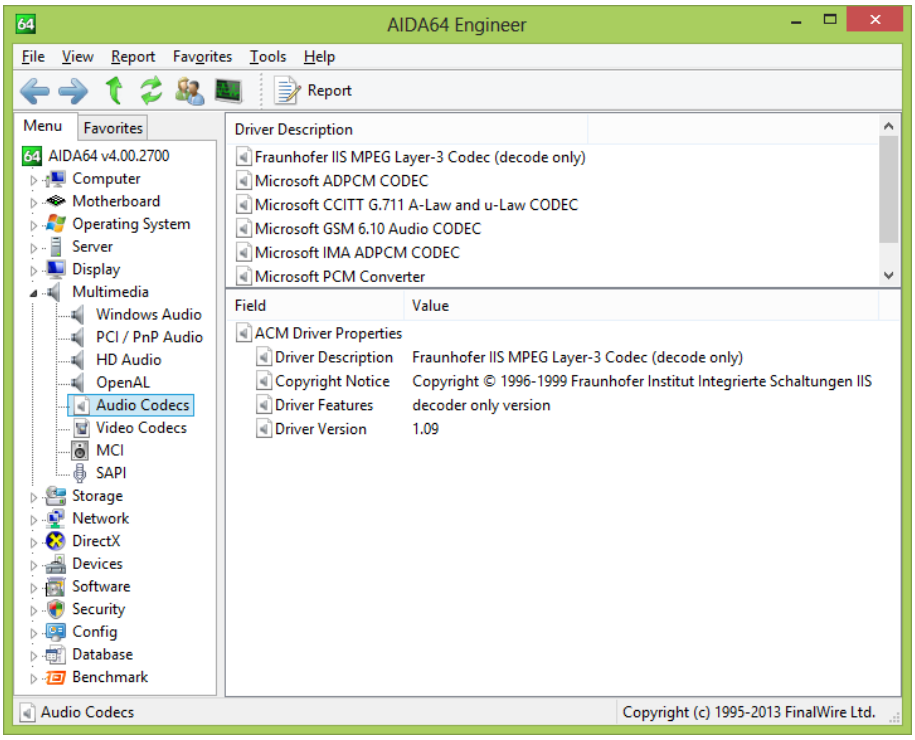
This page provides details about available High Definition Audio controllers and HD Audio devices. Links to driver download websites are provided at the bottom of the page.

OpenAL

This page displays OpenAL properties and provides information about OpenAL extension support. Note: OpenAL API calls may cause application or operating system faults when the audio driver does not fully conform to industry-accepted standards, therefore it is recommended to disable this page when completing a network audit.

Audio Codecs

This page provides information about the available audio codecs. Double-clicking on any item will open the “Sound” window.



Video Codecs

This page provides information about the available video codecs. Double-clicking on any item will open the “Sound” window.

MCI

This page lists the Media Control Interface devices.

SAPI

This page provides information about the speech synthesis and speech recognition properties of the installed Microsoft Speech API (SAPI).

8.7 Storage

Windows Storage

This page lists the storage devices installed in the system, including SATA, IDE and SCSI controllers and the attached disk drives. Physical information is provided for hard disks, optical drives and SSDs.

Logical Drives

This page lists the available local and network drives with information about the file system, total size, free space and volume serial.

Physical Drives

This page lists the disk drives which use MBR or GPT partition tables. Partitions are also listed for the selected drives.

Optical Drives

This page provides information about the optical drives (CD, DVD and Blu-ray drives), including virtual drives. For most drives, supported media formats as well as read and write speeds are also indicated. Links to the manufacturers' firmware download websites are provided at the bottom of the page.

ASPI

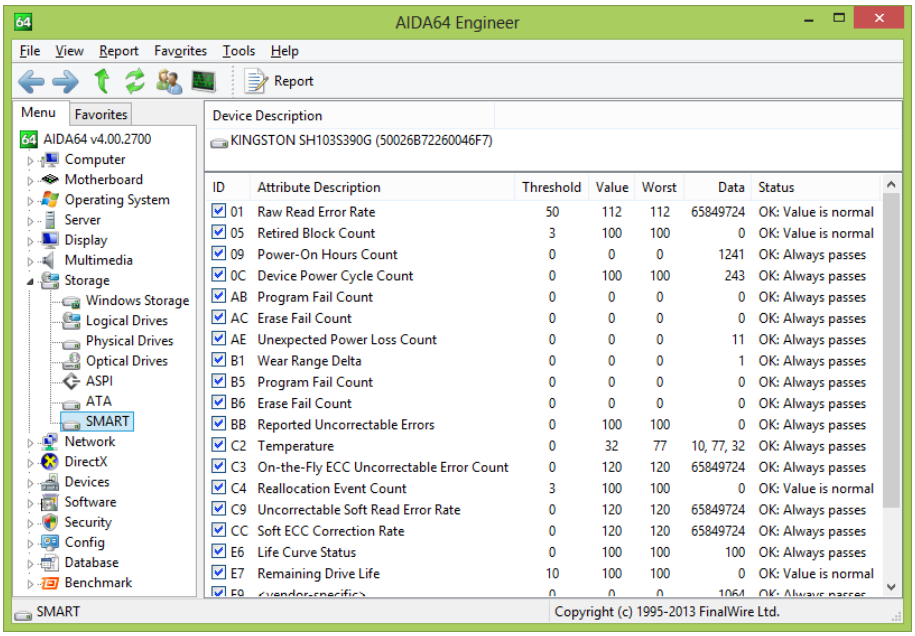
This page provides information about the Advanced SCSI Programming Interface drives.

ATA

This page provides detailed information about the IDE and SATA hard drives and SSDs. Beside the ATA auto-detect data, disk drive and SSD physical properties (form factor, RPM, flash memory and SSD controller type) are also provided.

SMART

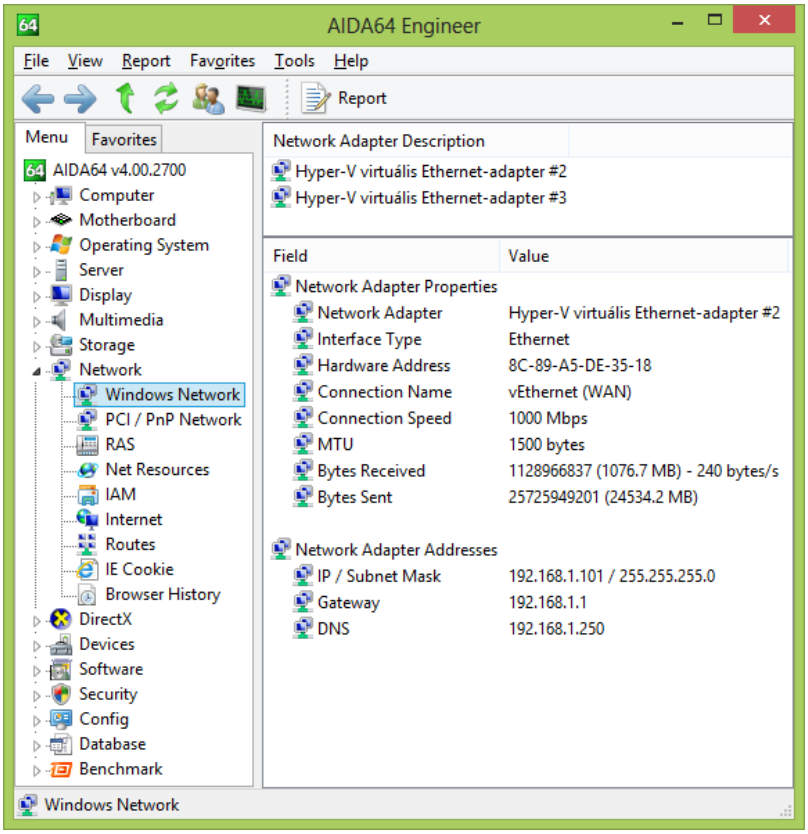
This page displays SMART (Self-Monitoring, Analysis and Reporting Technology) attribute status information. We can configure AIDA64 to send alerts if errors occur. Alert triggers can be selected in **Preferences / Alert triggers**.


AIDA64 Engineer
File View Report Favorites Tools Help
Report
Menu Favorites
AIDA64 v4.00.2700
Computer
Motherboard
Operating System
Server
Display
Multimedia
Storage
Windows Storage
Logical Drives
Physical Drives
Optical Drives
ASPI
ATA
SMART
Network
DirectX
Devices
Software
Security
Config
Database
Benchmark
Device Description
KINGSTON SH103S390G (50026B72260046F7)
ID Attribute Description Threshold Value Worst Data Status
01 Raw Read Error Rate 50 112 112 65849724 OK: Value is normal
05 Retired Block Count 3 100 100 0 OK: Value is normal
09 Power-On Hours Count 0 0 0 1241 OK: Always passes
0C Device Power Cycle Count 0 100 100 243 OK: Always passes
AB Program Fail Count 0 0 0 0 OK: Always passes
AC Erase Fail Count 0 0 0 0 OK: Always passes
AE Unexpected Power Loss Count 0 0 0 11 OK: Always passes
B1 Wear Range Delta 0 0 0 1 OK: Always passes
B5 Program Fail Count 0 0 0 0 OK: Always passes
B6 Erase Fail Count 0 0 0 0 OK: Always passes
BB Reported Uncorrectable Errors 0 100 100 0 OK: Always passes
C2 Temperature 0 32 77 10, 77, 32 OK: Always passes
C3 On-the-Fly ECC Uncorrectable Error Count 0 120 120 65849724 OK: Always passes
C4 Reallocation Event Count 3 100 100 0 OK: Value is normal
C9 Uncorrectable Soft Read Error Rate 0 120 120 65849724 OK: Always passes
CC Soft ECC Correction Rate 0 120 120 65849724 OK: Always passes
E6 Life Curve Status 0 100 100 100 OK: Always passes
E7 Remaining Drive Life 10 100 100 0 OK: Value is normal
SMART
Copyright (c) 1995-2013 FinalWire Ltd.

8.8 Network

Windows Network

This page enumerates the wired and wireless network adapters installed, such as integrated WLAN controllers, motherboard-integrated LAN controllers and Bluetooth controllers. The page provides network adapter properties, including real-time traffic information. Links to the manufacturers' driver download websites are provided at the bottom of the page.



PCI / PnP Network

This page enumerates the PCI, PCI Express and PnP network controllers.

RAS

This page provides information on Remote Access Services (RAS), such as dial-up, ISDN and DSL settings.

Net Resources

On this page we can have an overview of our entire network, including workgroups, domains, the workstations and servers they include as well as shared folders and printers.

IAM

This page provides information about the e-mail accounts used in the installed e-mail clients (eg. Outlook, Outlook express).

Internet

This page provides information about Internet Explorer and the proxy settings.

Routes

This page lists the defined TCP/IP network routes.

IE Cookie

This page lists the Internet Explorer cookies stored on the computer. Double-clicking most cookies will open the corresponding website in the default browser. By pressing the “Clear list” button on the taskbar, we can delete all cookies stored on the computer at a single click.

Browser History

This page displays Internet Explorer browsing history. Double-clicking any item will open the corresponding URL in the default browser.

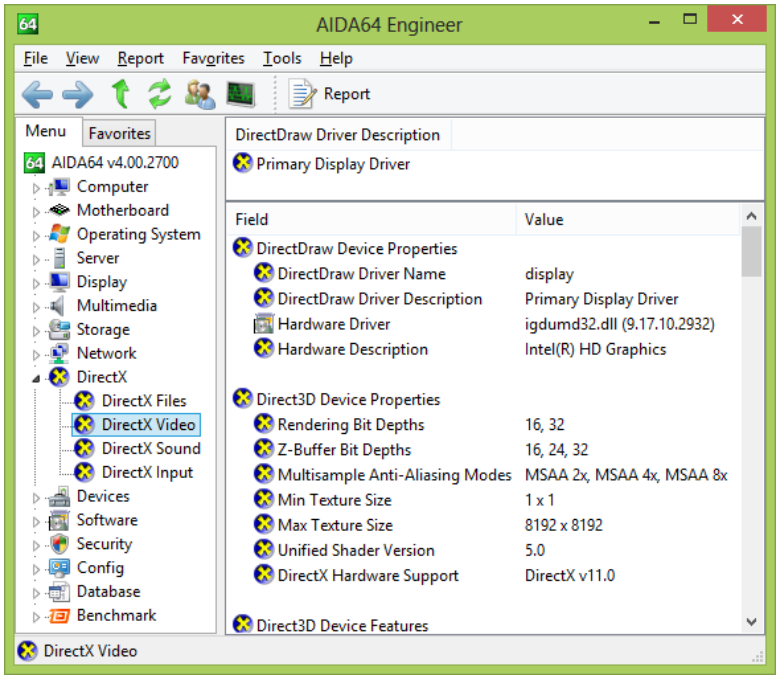
8.9 DirectX

DirectX Files

This page lists all installed DirectX files. Double-clicking any item will open the file properties window.

DirectX Video

This page provides DirectDraw device information. Double-clicking the drivers will run the DirectX Diagnostics tool. Links to the graphics card manufacturer's driver download website are provided at the bottom of the page.



DirectX Sound

This page provides DirectSound device information. Double-clicking any of the listed devices will run the DirectX Diagnostics tool.

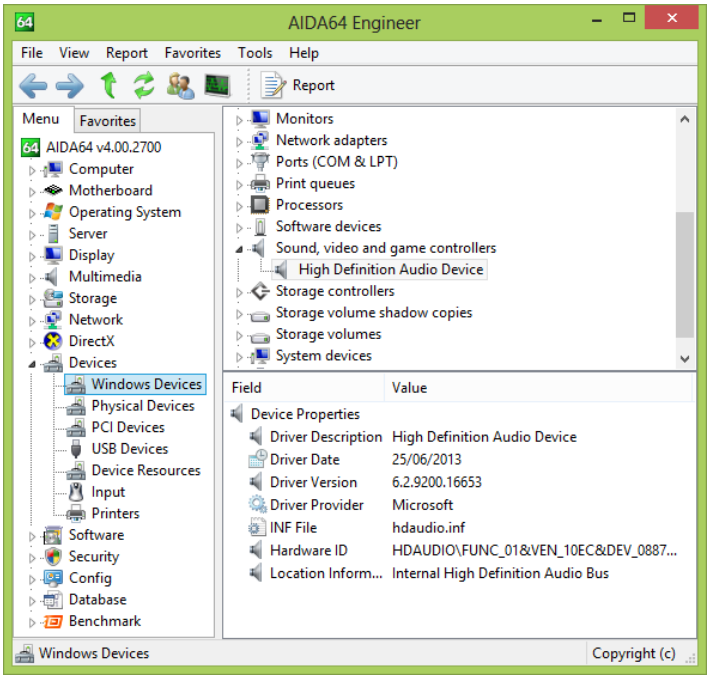
DirectX Input

This page provides DirectInput device information (such as mouse and keyboard properties).

8.10 Devices

Windows Devices

This page displays the same information as the Device Manager in Windows. But AIDA64 is capable of recognizing devices not identified by Windows (listed as Unknown devices) and providing information about them, which helps us find the appropriate drivers.



Physical Devices

This pages lists the physical devices found in the PC. All PCI, PCI Express, AGP, PnP or USB devices are listed here, including those integrated on the motherboard.

PCI Devices

This page lists the PCI, PCI Express and AGP devices and provides detailed information about the AGP, HyperTransport, PCI Express and QPI controllers. Links to the manufacturers' driver download websites are provided at the bottom of the page.

USB Devices

This page lists the available USB controllers and USB devices. The USB controller icons are color-coded: USB 2.0 controllers are displayed in violet, while USB 3.0 controllers in blue.

Device Resources

This page lists the resources (port, IRQ, DMA, memory) used by Windows devices.

Input

This page lists the input devices (keyboard, mouse, game controller) and their properties.

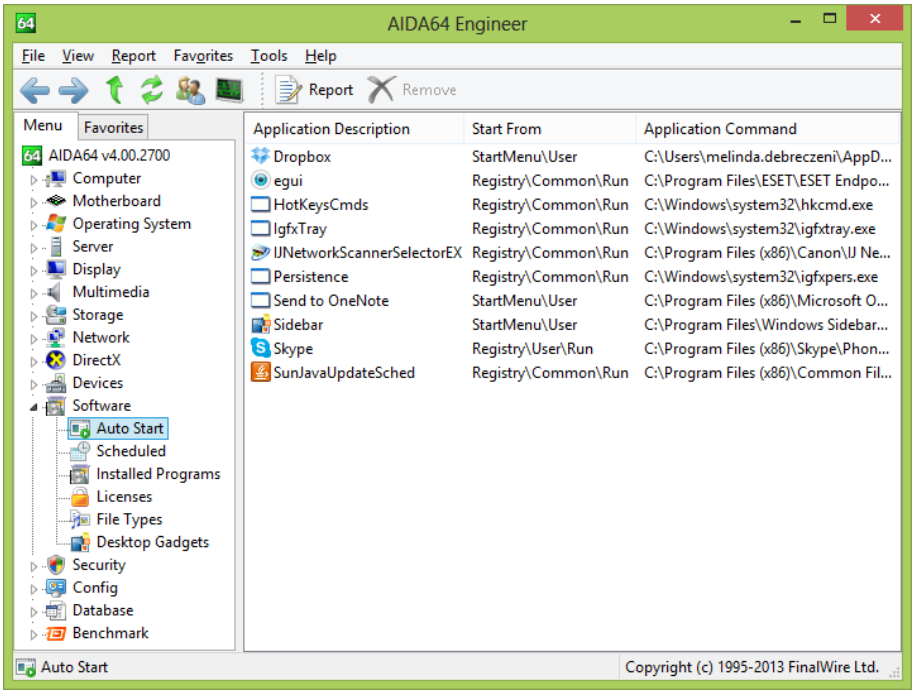
Printers

This page lists the installed local and network printers and faxes along with their properties. Links to the manufacturers' driver download websites are provided at the bottom of the page.

8.11 SOFTWARE

Auto Start

This page lists the programs which are launched at Windows startup. Double-clicking on any of these items will open their file properties window, while clicking “Remove” on the toolbar will remove the items from the list (and will not launch at Windows startup).



Scheduled

This page lists the scheduled tasks configured in the Windows Task Scheduler.

Installed Programs

This page lists the programs installed on the operating system. Programs can be uninstalled directly from AIDA64 by double-clicking them.

Licenses

This page lists the product keys for certain installed software (including Microsoft Windows and Office).

File Types

This page lists the file types registered in Windows.

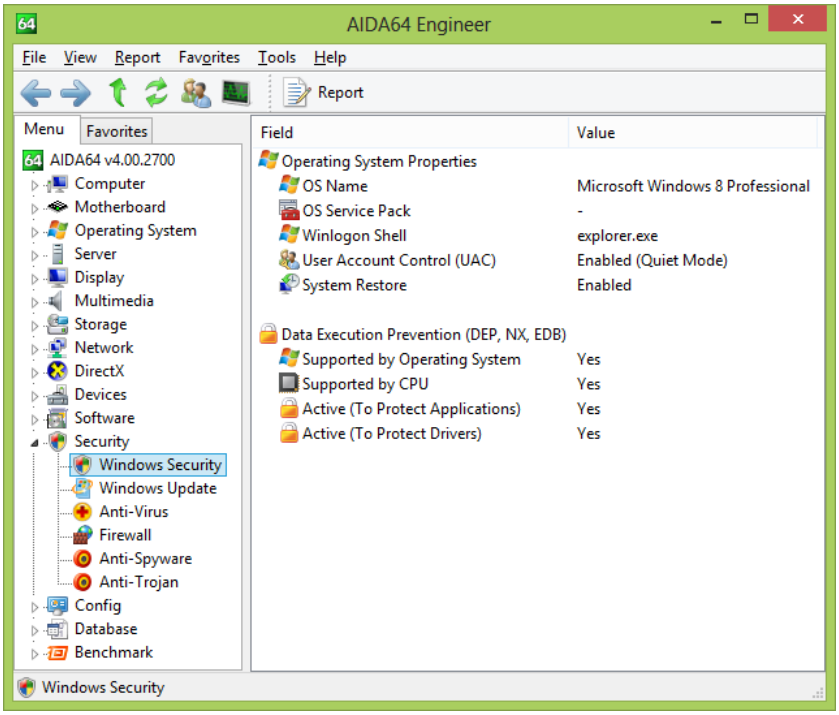
Desktop Gadget

This page provides information about any Windows desktop gadgets which have been installed.

8.12 Security

Windows Security

This page provides basic operating system properties as well as User Account Control (UAC) and System Restore status information. Supported Data Execution Prevention (DEP) technologies are also listed.



Windows Update

This page enumerates the security updates and hotfixes installed on the operating system.

Anti-Virus

This page provides information about any installed anti-virus programs, such as version number and virus database date.

Firewall

This page provides information about any installed firewall programs, such as version number and status.

Anti-Spyware

This page provides information about any installed anti-spyware programs.

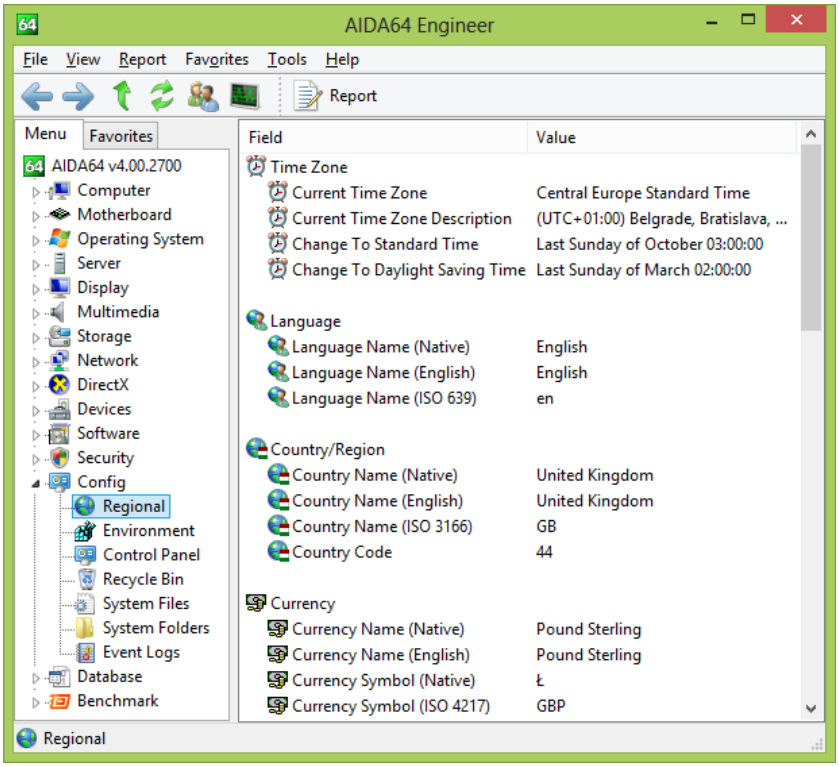
Anti-Trojan

This page provides information about any installed anti-trojan programs.

8.13 CONFIG

Regional

This page provides an overview of the regional settings in Windows (Date and time zone, Language, Region, Date format etc.). Double-clicking on any item will open the “Region and language” settings window.



Environment

This page enumerates the environment variables available in Windows. These can be used between % signs in scripts or command-line commands.

Control Panel

This page lists those programs and services which are represented with an icon in the Control Panel. Double-clicking them will open their settings page.

Recycle Bin

This page lists the recycle bins for each partition. We can empty recycle bins directly by double-clicking them.

System Files

This page lists the system files and their content.

System Folders

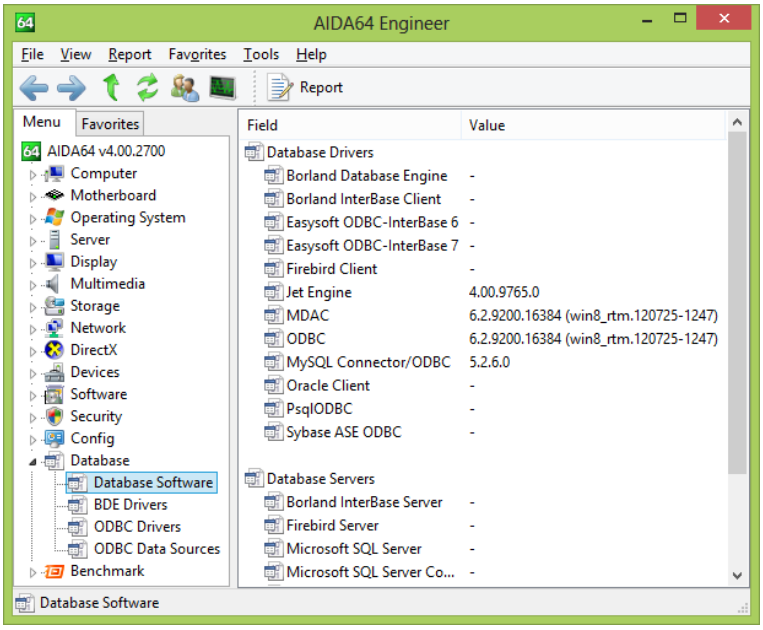
This page lists those folders which are created during Windows installation (for example: Program Files, Users or AppData). Double-clicking them will open the folders in a new window.

Event Logs

This page displays the Windows event log. Double-clicking on any item will open their event properties.

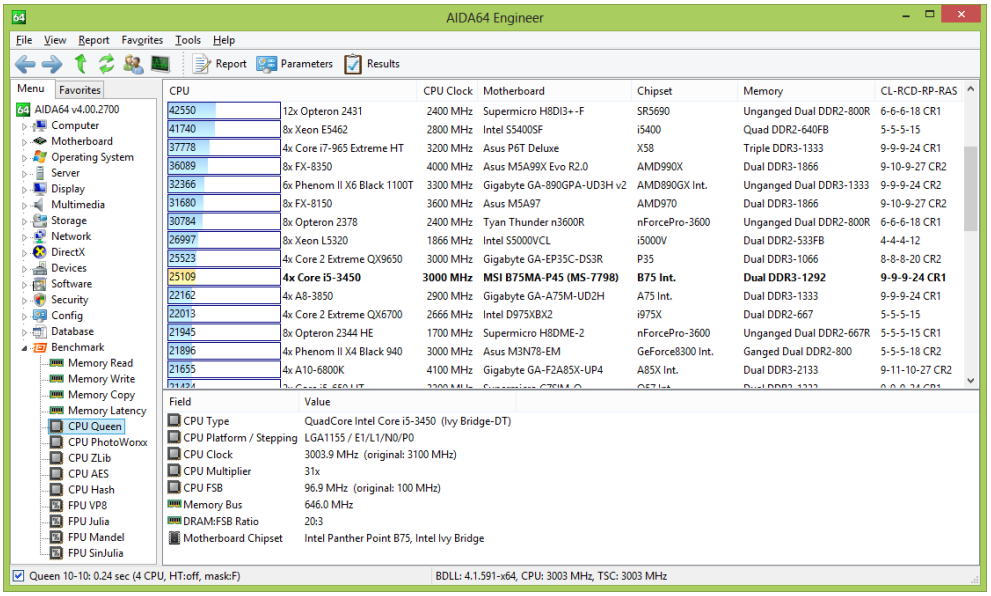
8.14 DATABASE

These pages provide information about the installed database software, such as database servers and driver versions. Further details about the drivers (specifically, ODBC and BDE drivers) are found in the corresponding sub-pages, where we can also find information about the ODBC Data Sources.



8.15 BENCHMARK

Besides the comprehensive benchmarks described in section 6.1 and 6.2, AIDA64 offers dedicated microbenchmarks, which are available under the Benchmark category in the Page menu. These are synthetic benchmarks, which means that they can be used to measure the theoretical maximum performance of the system. Memory bandwidth, CPU and FPU benchmarks are built on the multi-threaded AIDA64 benchmark engine that – since AIDA64 Engineer v4.00 – supports up to 640 simultaneous processing threads and 10 processor groups.


AIDA64 Engineer
File View Report Favorites Tools Help
Report Parameters Results
Menu Favorites
Benchmark
Memory Read
Memory Write
Memory Copy
Memory Latency
CPU Queen
CPU PhotoWorxx
CPU ZLib
CPU AES
CPU Hash
FPU VP8
FPU Julia
FPU Mandel
FPU SinJulia
CPU Clock Motherboard Chipset Memory CL-RCD-RP-RAS
42550 12x Opteron 2431 2400 MHz Supermicro H8DI3+-F SR5690 Unganged Dual DDR2-800R 6-6-6-18 CR1
41740 8x Xeon E5462 2800 MHz Intel S5400SF i5400 Quad DDR2-640FB 5-5-5-15
37778 4x Core i7-965 Extreme HT 3200 MHz Asus P6T Deluxe X58 Triple DDR3-1333 9-9-9-24 CR1
36089 8x FX-8350 4000 MHz Asus M5A99X Evo R2.0 AMD990X Dual DDR3-1866 9-10-9-27 CR2
32366 6x Phenom II X6 Black 1100T 3300 MHz Gigabyte GA-890GPA-UD3H v2 AMD890GX Int. Unganged Dual DDR3-1333 9-9-9-24 CR2
31680 8x FX-8150 3600 MHz Asus M5A97 AMD970 Dual DDR3-1866 9-10-9-27 CR2
30784 8x Opteron 2378 2400 MHz Tyan Thunder n3600R nForcePro-3600 Unganged Dual DDR2-800R 6-6-6-18 CR1
26997 8x Xeon L5320 1866 MHz Intel S5000VCL i5000V Dual DDR2-533FB 4-4-4-12
25523 4x Core 2 Extreme QX9650 3000 MHz Gigabyte GA-EP35C-DS3R P35 Dual DDR3-1066 8-8-8-20 CR2
25109 4x Core i5-3450 3000 MHz MSI B75MA-P45 (MS-7798) B75 Int. Dual DDR3-1292 9-9-9-24 CR1
22162 4x A8-3850 2900 MHz Gigabyte GA-A75M-UD2H A75 Int. Dual DDR3-1333 9-9-9-24 CR1
22013 4x Core 2 Extreme QX6700 2666 MHz Intel D975XBX2 i975X Dual DDR2-667 5-5-5-15
21945 8x Opteron 2344 HE 1700 MHz Supermicro H8DME-2 nForcePro-3600 Unganged Dual DDR2-667R 5-5-5-15 CR1
21896 4x Phenom II X4 Black 940 3000 MHz Asus M3N78-EM GeForce8300 Int. Ganged Dual DDR2-800 5-5-5-18 CR2
21655 4x A10-6800K 4100 MHz Gigabyte GA-F2A85X-UP4 A85X Int. Dual DDR3-2133 9-11-10-27 CR2
Field Value
CPU Type QuadCore Intel Core i5-3450 (Ivy Bridge-DT)
CPU Platform / Stepping LGA1155 / E1/L1/N0/P0
CPU Clock 3003.9 MHz (original: 3100 MHz)
CPU Multiplier 31x
CPU FSB 96.9 MHz (original: 100 MHz)
Memory Bus 646.0 MHz
DRAM:FSB Ratio 20:3
Motherboard Chipset Intel Panther Point B75, Intel Ivy Bridge
Queen 10-10: 0.24 sec (4 CPU, HT:off, mask:F)
BDLL: 4.1.591-x64, CPU: 3003 MHz, TSC: 3003 MHz

Thanks to AIDA64's huge reference result database, benchmark results can be compared to those of other configurations. By clicking the “Results” button on the toolbar, we can save and manage our benchmark results, and we can also hide reference results and user results, which are listed on the results page by default.

Memory read, write, copy and latency

Memory benchmarks measure the maximum bandwidth achievable when performing the selected operations (read, write, copy). The memory latency benchmark measures the time it takes for data to arrive in the integer registers of the CPU after the issue of the read command.

CPU Queen

This simple integer benchmark focuses on the CPU's branch prediction capabilities and branch misprediction penalties. It calculates solutions for the classic “N queens puzzle” on a 10x10 chessboard.

CPU PhotoWorxx

This integer benchmark measure CPU performance with several 2D photo processing algorithms. The test mainly stresses the SIMD integer arithmetic execution units of the CPU and the memory subsystem.

CPU ZLib

This integer benchmark measures combined CPU and memory subsystem performance using the public ZLib compression library.

CPU AES

This integer benchmark measures CPU performance using AES (Advanced Encryption Standard) data encryption.

CPU Hash

This integer benchmark measures CPU performance using the SHA1 hashing algorithm.

FPU VP8

This benchmark measures video compression performance using version 1.1.0 of the Google VP8 (WebM) video codec.

FPU Julia

This benchmark measures the single precision (or 32-bit) floating-point performance through the computation of several “Julia” fractal frames.

FPU Mandel

This benchmark measures the double precision (or 64-bit) floating-point performance through the computation of several “Mandelbrot” fractal frames.

FPU SinJulia

This benchmark measures the extended precision (or 80-bit) floating-point performance through the computation of a single frame of a modified “Julia” fractal.

9 CONTACT

ABSEIRA Kft.

Erzsébet tér 2.

1051 Budapest

Hungary

Registration number: 01-09-947083

VAT identification number: 22971074-2-41

E-mail: info@abseira.com

Business hours: from Monday to Friday between 8.00 and 16.00 CET.

ABSEIRA Ltd. is the international distributor of the AIDA64 product family.

v 1.0 – First edition

v 1.1 – GPGPU Benchmark description added